



BENCHMARKS

Benchmarks Online 1995

- [Volume 16 \(1995\) Index to Articles](#)
- [January/February 1995\(Volume 16 Number 1\)](#)
- [March/April 1995\(Volume 16 Number 2\)](#)
- [May/June 1995\(Volume 16 Number 3\)](#)
- [July/August 1995\(Volume 16 Number 4\)](#)
- [September/October 1995\(Volume 16 Number 5\)](#)
- [November/December 1995\(Volume 16 Number 6\)](#)

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because over time, many sites shutdown or change addresses, thus voiding all links to them. Please keep in mind that not all links will work as they should.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Index to *Benchmarks*, Volume 16 (1995)

Focus And General Information

JANUARY/FEBRUARY: Electronic Mail

- [Electronic Mail at UNT](#)
- [IECC Final Report](#)
- [Accessing the Internet From WPO Mail](#)
- [Forwarding Electronic Mail](#)
- [BITNET: A Status Report](#)
- [Suggested Use of Group "Everyone" in WPO Mail](#)
- [The Network Connection - Know Your Mail Header](#)
- [List of the Month - IECC-HE](#)
- [Postal Service Experiments With E-Mail](#)
- [The Mail Bomber is Back](#)
- [Staff Activities](#)
- [News From the CWIS/Gopher Hole - New "Kid" on the Block](#)
- [New CMS Documents Available](#)
- [Jovian Update](#)
- [A New General Access Computer Art Lab](#)
- [Pentium Problems](#)
- [Pentium Problems Produces Plethora of Puns](#)
- [IRC News](#)
- [Free Maple V Demo Available](#)

MARCH/APRIL: Computing and the Law

- [Computing and the Law](#)
- [PC Software Industry Loses \\$8.08 Billion to Pirates in 1994](#)
- [Software Piracy](#)
- [Copyrights in Cyberspace](#)
- [Software Site Licenses at UNT](#)
- [WordPerfect Site License is Changing](#)
- [The Rules of the Internet](#)
- [The End of the Original Internet](#)
- [News from the CWIS/Gopher Hole - Law Stuff](#)
- [Sex & Violence in Cyberspace](#)
- [E-Mail Violates Sunshine Laws](#)
- [A Web of Spies](#)
- [The Network Connection - "Ad" Nauseam](#)
- [List of the Month - Netiquette](#)
- [Staff Activities](#)
- [Viruses: If at First You Don't Succeed](#)
- [F-Prot Updates](#)
- [ACS Offers Courseware Development Service](#)
- [Peak Hour Access of Jove](#)
- [Determining if You Have Metro Line Access](#)
- [UNT Newsgroups](#)

- [Novell iCT Program at UNT](#)
- [Training for Network Managers](#)
- [IRC News](#)

MAY/JUNE: Instructional Technology

- [Instructional Technology](#)
- [Interactive Learning at UNT](#)
- [Instructional Developement](#)
- [UNT Sponsored Projects Administration](#)
- [Exploiting Technology Grants](#)
- [Bibliograhpy Related to the Education of Instructional Designers](#)
- [Associations Involved in Multimedia Development and Related Activities](#)
- [Librarians Plan Digital Library](#)
- [Distance Learning at UNT](#)
- [Internet Resources on Distance Learning](#)
- [The Network Connection - Searching the Internet](#)
- [News From the CWIS/Gopher Hole - Fly the Unfriendly Skies](#)
- [Higher Ed Web Page List](#)
- [List of the Month - FACSUP-L](#)
- [New Dial-Up Service Planned](#)
- [Chain Letters and Account Privileges](#)
- [The Unabomber Strikes Again](#)
- [Support Services Has A New Home Page](#)
- [Staff Activities](#)
- [Don't Ditch That Software!](#)
- [VAX Phase-out Almost Complete](#)
- [ISEC at UNT](#)
- [IRC News - March 30, 1995; April 18, 1995](#)

JULY/AUGUST: Operating Systems

- [Operating Systems](#)
- [...Warp 3 ...Engage](#)
- [Windows 95 - Your Next Desktop Environment](#)
- [The New Face](#)
- [Operating System Information on the Web](#)
- [Linux, an Operating Environment](#)
- [Solaris: Environment or Operating System](#)
- [New Mainframe Installed](#)
- [Senior Director of Academic Computing Resigns](#)
- [Staff Activities](#)
- [News From the CWIS/Gopher Hole - A Homepage of One's Own](#)
- [Helpdesk Expands Hours](#)
- [The Network Connection - WEB of Lists](#)
- [IRC News](#)
- [List of the Month - WIN95-L](#)
- [The Unabomber Gets a Web Page](#)

SEPTEMBER/OCTOBER: Back to School

- [Back to School Greetings](#)

- [UNT Student Computing Facilities](#)
- [Premium Remote Access Subscription Service](#)
- [NMS News](#)
- [Student Loans: as Easy as EFT](#)
- [Degree Audit System to Go Online](#)
- [Bookread: IBM Manuals Online](#)
- [New Mainframe Performing as Expected](#)
- [Accessing and Using ICPSR Datsets](#)
- [The Network Connection - Educational Resources on the Internet](#)
- [My Fascinating Interview With Allan Klumpp](#)
- [News From the CWIS/Gopher Hole - 531,000](#)
- [New Virus Threat](#)
- [Tired of Windows 95 Hype Yet?](#)
- [Staff Activities](#)

NOVEMBER/DECEMBER: The World Wide Web

- [The Wonderful World of the World Wide Web](#)
- [A Homepage of One's Own](#)
- [Build a Home With No Money Down!](#)
- [Get the Message Across Online!](#)
- [Cobwebs - I've Got Those Creepy, Crawly, Cranky, 1-2-3 Hanky, Webmaster Blues](#)
- [The Network Connection - If you haven't seen these Web Sites . . .](#)
- [List Of the Month - Net-Happenings](#)
- [Edupage Items of Interest](#)
- [PC/Computing Online](#)
- [Presidential Futures Market?](#)
- [Shhh! Honey, did you hear something?](#)
- [Personal Privacy Pointers](#)
- [PPP Service is Here!](#)
- [Premium Remote Access Subscription Service](#)
- [PPP Support](#)
- [Troubleshooting PPP Connections at UNT](#)
- [UNIX Research Computer Replacement Being Sought](#)
- [Virus Trek: The Next Generation](#)
- [Staff Activities](#)
- [IRC News - September 19, 1995; November 14, 1995](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Benchmarks

These are the articles published in the January/February 1995 issue.

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because, over time, many sites shutdown or change addresses thus voiding all links to them. Please keep in mind that all links may not work as they should.

Electronic Mail

- [Electronic Mail at UNT](#)
- [IECC Final Report](#)
- [Accessing the Internet From WPO Mail](#)
- [Forwarding Electronic Mail](#)
- [BITNET: A Status Report](#)
- [Suggested Use of Group "Everyone" in WPO Mail](#)
- [The Network Connection](#)
- [List of the Month](#)
- [Postal Service Experiments With E-Mail](#)
- [The Mail Bomber is Back](#)

General Information

- [Staff Activities](#)
- [News From the CWIS/Gopher Hole](#)
- [New CMS Documents Available](#)
- [Jovian Update](#)
- [A New General Access Computer Art Lab](#)
- [Pentium Problems](#)
- [Pentium Problems Produces Plethora of Puns](#)
- [IRC News](#)
- [Free Maple V Demo Available](#)

[1995 Index](#)



[First Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Benchmarks

These are the articles published in the March/April 1995 issue.

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because, over time, many sites shutdown or change addresses thus voiding all links to them. Please keep in mind that all links may not work as they should.

- [Computing and the Law](#)
- [PC Software Industry Lost \\$8.08 Billion to Pirates in 1994](#)
- [Software Piracy](#)
- [Copyrights in Cyberspace](#)
- [Software Site Licenses at UNT](#)
- [WordPerfect Site License is Changing](#)
- [Rules of the Internet](#)
- [End of the Original Internet](#)
- [News from the CWIS/Gopher Hole](#)
- [Sex and Violence in Cyberspace](#)
- [E-mail Violates Sunshine Laws?](#)
- [Web of Spies](#)
- [Network Connection](#)
- [List of the Month](#)

General Information

- [Viruses: If at First You Don't Succeed](#)
- [E-Prot Updates](#)
- [ACS Offers Courseware Development Service](#)
- [Peak Hour Access on Jove](#)
- [Determining if You Have Metro Line Access](#)
- [UNT Newsgroups](#)
- [Novell iCT Program at UNT](#)
- [Staff Activities](#)
- [IRC News](#)

[1995 Index](#)



[First Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Benchmarks

These are the articles published in the May/June 1995 issue(Volume 16 Number 3).

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because, over time, many sites shutdown or change addresses thus voiding all links to them. Please keep in mind that all links may not work as they should.

Instructional Technology

- [Instructional Technology](#)
- [Interactive Learning at UNT](#)
- [Instructional Developement](#)
- [UNT Sponsored Projects Administration](#)
- [Exploiting Technology Grants](#)
- [Bibliograhly Related to the Education of Instructional Designers](#)
- [Associations Involved in Multimedia Development and Related Activities](#)
- [Librarians Plan Digital Library](#)
- [Distance Learning at UNT](#)
- [Internet Resources on Distance Learning](#)
- [The Network Connection](#)
- [News From the CWIS/Gopher Hole](#)
- [Higher Ed Web Page List](#)
- [List of the Month](#)

General Information

- [New Dial-Up Service Planned](#)
- [Chain Letters and Account Privileges](#)
- [The Unabomber Strikes Again](#)
- [Support Services Has A New Home Page](#)
- [Staff Activities](#)
- [Don't Ditch That Software!](#)
- [VAX Phase-out Almost Complete](#)
- [ISEC at UNT](#)
- [IRC News](#)

[1995 Index](#)   [First Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Benchmarks

These are the articles published in the July/August 1995 issue(Volume 16 Number 4).

These pages are meant for use as an archive for the University of North Texas publication *Benchmarks*. Many of these files are old and contain information and links to sites that no longer function. This is because, over time, many sites shutdown or change addresses thus voiding all links to them. Please keep in mind that all links may not work as they should.

Operating Systems

- [Operating Systems](#)
- [...Warp 3 ...Engage](#)
- [Windows 95 - Your Next Desktop Environment](#)
- [The New Face](#)
- [Operating System Information on the Web](#)
- [Linux, an Operating Environment](#)
- [Solaris: Environment or Operating System](#)
- [New Mainframe Installed](#)
- [Senior Director of Academic Computing Resigns](#)

General Information

- [Staff Activities](#)
- [News From the CWIS/Gopher Hole](#)
- [Helpdesk Expands Hours](#)
- [The Network Connection](#)
- [IRC News](#)
- [List of the Month](#)
- [The Unabomber Gets a Web Page](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Electronic Mail at UNT

By [Claudia Lynch](#), *Benchmarks Editor* (lynch@unt.edu). [Click here to view related article.](#)

On April 25, 1991 the Electronic Mail Task Force met for the first time. The Task Force was formed in March of 1991 at the request of Dr. Blaine Brownell, the UNT Provost and Vice President for Academic Affairs, and was charged to evaluate, recommend, and implement a University-wide electronic mail system. Dr. Paul Schlieve, Associate Professor, Department of Technology and Cognition, College of Education, chaired this task force that reported to the Information Resources Council (IRC) as well as to the Provost. The task of the force was never easy, and Dr. Schlieve reported to the IRC on July 20, 1994 that the Task Force has not been able to agree on one mail package, since there are irreconcilable differences between the various packages. ([Click here to see related article.](#)) Subsequently, the Task Force met again and after much deliberation decided on a set of recommendations to move forward to the IRC. On September 22, 1994 the final recommendations of the Electronic Mail Task Force were presented.

Electronic Mail Task Force Recommendations

1. Use of NetWare Global Messaging to enable LAN-based applications to exchange mail via MHS and SMTP (including WordPerfect Office 3.1 on an interim basis).
2. Recognition of the need to support AOCE messaging as part of the Macintosh core operating system.
3. Implementation of an Interactive Mail Access Protocol (IMAP)-compliant mail system for student mail.
4. Pursuit of in-house development of integrated directory services.
5. Drop Pegasus mail and WordPerfect Office 3.1 as supported items.
6. Adopt cc:Mail as the centrally supported microcomputer E-mail package.

According to the IRC minutes for September 22, 1994, there seemed to be some concern about the recommendation the Task Force was preparing to make so the Chair proposed the creation of a system by which a decision can be made on a campus-wide E-mail solution by the end of this semester. He proposed forming a new commission, taking the E-mail recommendation to the Communications Program Group, getting a broader campus-wide hearing and coming back to the Council at its November or December meeting with a final recommendation. ([Click here to view related article](#)) At the end of the meeting, the Electronic Mail Task Force was declared officially dissolved.

Electronically Enabled Communications Commission

As you will see from reading the Information Resources Council News of this issue, the new commission that was suggested on September 22, 1994 was formed and christened the Electronically Enabled Communications Commission. The executive summary of the final report of that commission is found below. The Commission considered two products, cc:Mail and GroupWise, and stated that due to familiarity, comfort, and perhaps lower training costs associated with the Novell product, GroupWise is recommended by the Commission for implementation as the centrally supported and administered electronic communication package.



[Table of Contents](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

University of North Texas Information Resources Council Electronically Enabled Communications Commission

Final Report

December 6, 1994

Introduction

Upon the presentation of the final report of the [E-mail Task Force on September 22, 1994](#), the Council undertook a mandate to form a broadly based committee consisting of representative faculty, staff and administration from throughout the university. Potential membership was discussed and time table, direction and charge of what has become a Commission were set at the IRC Strategic Planning Committee on September 27. It was clear that electronic messaging, a concept broader than E-mail, was a critical university- wide consideration, and that a seamless, if not a single, communication system needs to be recommended by the Council. The Electronic Communication Commission was charged to:

- Provide a recommendation to the Information Resources Council for a strategic direction for electronically enabled communication to include but not be limited to, E- mail, calendaring, scheduling, electronic forms, and collaboration. Recommend action that will strategically position the university to achieve this long-term strategy.

Initial deadline dates included the production of a final report on November 15, 1994, with a recommendation being made by the IRC on December 13, 1994, and a recommendation to the Vice Presidents on December 15th of this year. An interim report was provided on December 15 in place of the final report, as important matters such as checking vendor references, conducting an equipment inventory, and determining related software, hardware, and staff costs need to be made. This is the final report provided to the Council. This document is provided for discussion at a special meeting of the Council on December 6. The Council will be asked to vote on a recommendation at its meeting on December 13, as scheduled. [The document was presented and approved at that meeting Ed.]

Commission Membership

The Commission consisted of an Executive Committee of three non-voting members and ten voting members, who are broadly representative of faculty, staff and administrators throughout campus. The executive committee consists of:

Raymond F. von Dran Dean, School of Library & Information Sciences and IRC Chair Cengiz Capan Director, College of Business Computer Center Bill Buntain Director, Network & Micro-computer Support Services

Commission members include:

Jim Conover Asst. Professor, Business Administration College of Business Kathryn Cullivan Assistant Dean for Fiscal Affairs College of Arts & Sciences Paul Dworak Assoc. Professor, College of Music Larry Hoke Director, Purchasing Leah Knack Registrar Assistant Tom Irons Assoc. Professor, School of Community Service Patricia Moseley Professor, Elem., Early Childhood and

Reading, College of Education Pixey Mosley Information Technology Librarian Library Connie Newton Asst. Professor, School of Visual Arts John Todd Assoc. Professor, Political Science College of Arts & Sciences/Faculty Senate

Commission Activities

The Commission held the following meetings, forums, and presentations since its inaugural meeting of October 6:

- October 13, 1994 Commission meeting 12:00-2:00 p.m.
- October 21, 1994 Open Forum I & II 8:30-11:30 a.m.
- October 25, 1994 Commission meeting 12:00-2:00 p.m.
- November 3, 1994 Vendor Presentation 12:00-5:00 p.m.
- November 4, 1994 Commission meeting 1:00-3:00 p.m.
- November 10, 1994 Commission meeting 12:00-2:00 p.m.
- November 29, 1994 Commission meeting 8:30-10:00 a.m.
- November 29, 1994 Commission meeting 3:00-5:00 p.m.

User Survey:

The IRC Strategic Planning Committee, on September 27th, reaffirmed the Council's original recommendation of July 20, 1994 that a user survey be undertaken. Bill Buntain, of the Computing Center, with the assistance of Cengiz Capan and others, developed a survey instrument which was reviewed by all Commission members (see Appendix A). The survey was administered to 3,343 university faculty, staff and administrators. The Commission received 649, consisting of 238 faculty responses and 411 staff responses. This response rate of nearly 20% is considered satisfactory for this type of mail survey. Respondents were surveyed in terms of the desirability of various types of applications and features of electronically-enabled communication systems. These responses (see Appendix B) were tabulated and applications and features ranked by faculty, staff and totals. Commission members feel that opinions solicited on the applications generally validate preferences on the parts of those surveyed. Later, public forums indicated that some of the impressions regarding features may have been misunderstood by those surveyed as a result of their own lack of experience in the use of electronic communications functions.

Campus Open Forums:

The Commission held two open forums on Friday, October 21, 1994, and publicized this event campus-wide both All appendices are found in the complete report. To view this report, contact IRC Chair Dr. Raymond von Dran in the School of Library & Information Sciences. through flyers (see Appendix C) and E-mail. The open forum consisted of presentations on issues surrounding electronic messaging and discussion, feedback, and clarification of issues concerning messaging, applications and functions. Most Commission members were available for question and answer by attendees. Over 60 campus faculty and staff attended the forum (see Appendix D - presentation overheads).

Vendor Capability Questionnaire:

Both technical considerations and feedback from the campus community assisted the Commission in the formulation of questions which would be asked of prospective or potential vendors of proprietary electronic communications systems. The Commission decided to solicit responses from three vendors which provide large system operations. These included Lotus, Microsoft, and WordPerfect/Novell. Questions were reviewed by Commission members and sent to vendors asking for their written response and scheduling them for formal, public presentations on November 3, 1994 (see Appendix E -Questions).

Vendor Presentation:

Each vendor was asked to speak to their messaging strategy and long-term strategic plans in 1-1/2 hour presentations held at the University Union between 12:30 and 5:00 p.m. Vendors were instructed not to provide demonstration of features, as those features are available for observation and on file on the university campus. Each vendor responded in writing, although only one met the designated deadline. The final vendor response was received on Wednesday, Nov. 9, the day before the Commission was to meet and recommend a system (November 10). Vendors provided answers to questions, including list of references, and a portfolio of material on applications, functions, and technical matters relating to systems architecture. The three vendors responses can be found in Appendix F.

Based upon criteria expressed by faculty and staff in the campus -wide survey, and that agreed to by the Commission members and both central and college-based technical staff, the following technical and functional requirements were considered to be the minimum for consideration as a communication system:

- Directory Services via X.500 Compliant system
- Internet mail exchange via SMTP/ MIME
- Sending and/or receiving messages via the Internet
- Sending and/or receiving university forms electronically
- Having a database which can be customized for storage and retrieval of documents for reference purposes
- Working with electronic mail from a home or portable computer by either dialing in via telephone or using the Internet
- Sending and receiving fax messages electronically via computer
- Using electronic bulletin boards
- Sharing data of various types in an ad hoc work group
- Tracking requests for service electronically
- Managing projects electronically
- Performing an automated check of the availability of resources such as rooms and equipment and scheduling their use via computer

Factors Considered by the Commission in Making Recommendations

The Commission considered the following factors in making its recommendation to the IRC and the

university as a whole:

- Information on UNT's strategic direction for information resources, including UNT's Vision for the Role of Information Technology (Appendix I), the University's Strategic Plan, the IRC's Strategic Plan, and the current IRC Program Committee Strategies to achieve university information resources objectives.
- The Campus Wide Survey of user requirements, as well as feedback received at the Commission's Open Forums
- The minimum technical and functional requirements established by the Commission
- Responses to technical requirements and the questionnaire provided each vendor
- Materials provided by vendors
- Reference Check of Vendors -external user satisfaction, costs, and reliability (Appendix G)
- Systems reliability and demonstrated scalability
- The economics of system implementation, maintenance, and training.
- Related equipment costs, software costs, project staff support costs, and other costs including training costs and costs associated with necessary desktop equipment upgrades.
- Current user comfort, including perceived costs associated with migrating users and technical support personnel from one system to another.

Recommendations

Strategic Direction

In the Fall 1993 semester, a special committee was commissioned by the Information Resources Council to develop a vision for the role of information technology at the University of North Texas. This IRC Vision committee included in its vision a major focus on communication. The vision stated that technology tools need to be used to 1) provide all of UNT's community with a seamless exchange of information worldwide; 2) enable data-based planning and well-informed participative decision-making; and 3) facilitate university-wide cooperation and coordination by networking complex resources. This vision preceded the university's strategic vision and strategic plan.

Within the University of North Texas Strategic Plan, specific goals and objectives speak to the need for seamless, electronically-enabled communication. UNT's Goal #7, to nurture a spirit of community and unity throughout the university, has as an objective 7.2, to enhance communication within and across the university. This goal and objective have been supported by information resource strategies of the Council to

- establish compatible E-mail systems across the campus
- expand internal building networks to all campus facilities, and
- upgrade the communication network backbone.

UNT's Goal #6, to provide high quality academic, financial, administrative and university services in support of the university's mission was followed by UNT objective 6.4, to develop more efficient

and productive use of physical, financial, informational, and human resources to improve services. Specific information resource strategies to facilitate the reaching of this goal and objective include the establishment of an infrastructure to support electronic forms approval processes. UNT's Goal #3, to promote the university's commitment to scholarly activity by insuring a climate where basic and applied research and creative activities flourish resulted in Objective 3.1, to improve facilities and equipment for research/creative activity, rehearsal, performance, and exhibition to enhance the university's competitiveness with other quality programs. An information resource strategy to facilitate this objective is to optimize UNT network server organization. And lastly, UNT Goal #1, to help students realize their personal and career goals, and to be competitive in the workforce of the future through innovative, broadly-based undergraduate programs, was reflected in Objective 1.5. to improve, enhance, and increase equipment, facilities, and information resources required for quality academic programs and resulted in an information resource strategy to upgrade the communications network backbone.

Both the information resource vision and the UNT Strategic Plan, coupled with the opinions of UNT faculty and staff, as mirrored in the Information Resource Survey taken by the Commission, indicate need and support for an information resource strategy which encompasses a variety of functionalities and applications. Thus, the Commission recommends the following as part of a strategic direction for the University in this area:

- Implement a flexible, powerful, and expandable electronic communication solution that takes advantage of the fiber backbone that is already in place
- Use client-server solutions to distribute computing resources effectively.
- Include forms processing to increase the productivity of existing staff in a climate of shrinking budgets
- Include electronic conferencing and messaging to streamline and improve administrative interaction.

The Commission also recommends as a strategic direction that:

- equipment and services should be increasingly centralized within the university for the purposes of coordination, efficiency, and services. However, the commission also recognizes the need for continuing distributed support services, and the ability for departments to decide on specialized equipment and software needs should not be infringed.
- workstations for both faculty and staff need to be addressed centrally, on a university-wide basis, and
- necessary equipment upgrades will need to be followed by additional support for their implementation
- the management structure for computing and computer service should be defined from a central base. Models should be explored at other universities which have proven effectiveness.

Recommended Action

The consideration of the commission was thoughtful, with members willing in many cases to suspend the preferences which they had before they entered the deliberation process. Certain real reservations were raised about the reliability and scalability of Novell GroupWise. However, there were also real concerns raised regarding the comfort and ease, of moving a large number of campus users from a product (Word Perfect) to which they have become familiar to the less familiar Lotus product. There

would also be training costs as a result of such migration. It was decided that whatever the clear best choice would be, the Commission would recommend that choice. However, by the end of the deliberations of the Commission, it was believed that both products cc:Mail and GroupWise had concomitant trade-offs. In the opinion of the Commission, both systems were essentially similar, and each provided some special functionality not provided by the other. The reference checks for GroupWise led the Commission to believe that it was more reliable and stable than had been believed, and that reliability problems may have been solved with its new version 4.1. Moreover, economic issues, such as upgrades of desktop workstations, were not significant factors to consider, since upgrades would soon be necessary regardless of the messaging product chosen, as a result of the natural obsolescence of equipment.

Since no compelling advantages were demonstrated on the part of either system, and since there was greater familiarity, comfort, and perhaps lower training costs associated with the Novell product, GroupWise is recommended by the Commission for implementation as the centrally supported and administered electronic communication package. However, this recommendation is made with specific caveats:

1. That this product be centrally administered and supported, and that a technical staff person undergo intensive training in installation, service and maintenance for the Novell Product GroupWise. This person would thus have a firm idea of its scalability and reliability, as well as an understanding of how to implement the system effectively.
2. That the Computing Center work directly with Novell to determine the most effective system architecture and server configuration.
3. That Novell GroupWise be implemented on a test basis during the Spring 1995 semester; that a report be made to the Council by May 1 concerning its reliability, scalability, and efficaciousness. After receiving complete GroupWise administrator training, should the Campus E-mail Analyst provide technical justification indicating that the product is not scalable to the needs of this University, then the test should be considered to have failed and the second part of the Commissions' recommendation be activated (i.e. going to the Lotus products) without waiting for the May 1 deadline.
4. That the campus-wide implementation be scheduled for completion September 1, 1995. If GroupWise fails on a pilot basis, cc:Mail be implemented instead.
5. The costs of upgrading workstations to accommodate electronic communication, library and administrative applications be made explicit to the Council and the university administration as part of this general recommendation.
6. That an overall Information Resources strategy be adopted by the university central administration.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Accessing the Internet From WPO Mail

By Andy Mears, E-mail Analyst Assistant (mears@unt.edu)

Did you know that you can send and receive Internet mail from your WPO 3.1 mail account? To send a message to an Internet address type the Internet address in the To: line preceded by the letters in:. For example:

To: **in:mears@cc1.unt.edu** or

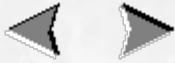
To: **in:president@whitehouse.gov**

And if you want to receive mail at your WPO 3.1 account from the Internet, your Internet address would look like:

user%server@wpo.unt.edu or a real example, **mears%cc1@wpo.unt.edu**

This is the way to send mail to someone who uses Pmail, Jove, Sol or CMS to receive their mail. If you check the status of a message that was sent to the Internet it will only indicate that it was Transferred. This is because the message was sent outside the WPO 3.1 mail system and the information about that message is not available.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Forwarding Electronic Mail

By Andy Mears, E-mail Analyst Assistant (mears@unt.edu)

How do I get my E-mail forwarded to my other account?

Most people in the campus community have more than one computer system account. This has created a great deal of confusion for anyone trying to send a message but not knowing which address to use. This article will outline the steps necessary to forward your mail from each of the systems in use by the academic community. Because many of the users that will be reading this article have access to both PMail and WPO 3.1 mail, I will use these as my example accounts; remember that the User-ID and server reference that I use are for my accounts only.

The first thing to do is find out what accounts you have access to. Also I will be using the term "User-ID" to reference the name of the account you would use for logging into each of the systems. For example, my CC1 Novell server account User-ID is MEARS but my VAX, SOL and CMS account User-IDs are AN25.

By default, if you have an account on a file server you should have access to PMail. If you have access to WPO 3.1 mail or any other mail package, your system administrator should have informed you. If you prefer to receive your mail at an account that uses something other than PMail or WPO 3.1 Mail then you will need to know your full Internet address and just fill in your preferred address instead of the addresses that I show as examples.

Most addresses are based around the User-ID and the name of the host systems that mail is received at. This is what my addresses look like at each system:

CC1 WPO 3.1 Mail:	mears%cc1@wpo.unt.edu
CC1 Novell host:	mears@cc1.unt.edu
Sol UNIX host:	an25@sol.acs.unt.edu
VAX host:	an25@vaxb.acs.unt.edu
CMS:	an25@vm.acs.unt.edu

If you do not know what the Internet address is for your account to which you want your mail forwarded, then you can find out by either contacting your system administrator or the Computing Center.

PMail

From the Pegasus Mail (PMail) Main Menu, select the Preferences option then select the Edit Extended Features option. If this item is not available, then you will need to contact your network manager and request that the Extended Features option be enabled or that he/she forwards your mail for you. Once the Edit Extended Features screen is displayed you will have the option to change the Autoforward and Internet AF. The difference between the two items is that the first item "Autoforward" will forward only the mail sent from another local PMail account that uses the address format server/User-ID such as CC1/MEARS. The Internet Autoforward will only forward mail that arrived from the Internet. Within each field you can enter the address to which you would like your mail forwarded. There is no need for special characters or punctuation. Here are some examples.

If I wanted to forward just my local PMail to my WPO 3.1 Mail account I would enter the address: mears%cc1@wpo.unt.edu in the Autoforward field, or if I wanted to forward all my PMail to my Sol account I would enter: **an25@sol.acs.unt.edu** in both fields. Remember, there is no special

punctuation necessary.

WPO 3.1

The forwarding feature is part of an internal control structure to which users do not have access. If you would like your WPO 3.1 mail forwarded to any other account then you will need to request that your network administrator add the forwarding information to your account. The most unfortunate drawback is that if your WPO 3.1 mail is forwarded then it will become inaccessible until the forwarding is removed. Another drawback is that Internet mail sent to a WPO 3.1 address that is forwarded will be bounced back to the sender.

VAX

VAX systems use a set command within the MAIL Program to establish the forwarding for an account. After logging into your VAX account and running MAIL, type the command:

set forward in% ""address""

In the *address* part type in the full Internet address of the account to which your mail will be forwarded. For example, if I were to forward my VAX account mail to my PMail address I would type the command:

set forward in% ""mears@ cc1.unt.edu""

Or if I were to forward my mail to my WPO 3.1 Mail I would type:

set forward in% ""mears% cc1@wpo.unt.edu""

It is important that you enter the characters exactly as shown, there are three quotation marks () before and after and there is the word in and a percent sign (in%) just before the Internet address. Once this is entered any mail that is sent to your account will be forwarded to the account designated in the address part.

To check your forward address, type SHOW FORWARD from the **MAIL** prompt.

Jove or Sol

If you have an account on either Jove or Sol then you need to create a file containing the address to which you want your mail forwarded. Once you log in to your account, you may use any of the text editors that are available or use the echo command. To use the echo command just type the following and fill in the address part with the address to which your mail is going to be forwarded:

echo "address" .forward

This command creates a file and places the information that is in quotes in the file. For example, if I was going to forward my Jove or Sol account to my WPO 3.1 Mail then I would type the following:

echo "mears%cc1@wpo.unt. edu" .forward

as soon as this is done all the mail sent to my Jove or Sol account will be forwarded on to my WPO 3.1 Mail account. It is important to note that there is a **period** (.) before the word **forward**. If you wish to use an editor then simply create a file named **.forward** and add the full Internet address to the file.

CMS

Forwarding your mail from your CMS account requires a number of commands that need to be entered from the command line or the Ready" prompt. After logging into your CMS account type the commands in the following order and enter your preferred E- mail address in the address part.

```
TERM CHARDEL OFF  
TELL MAILER FORWARD ADD address  
TELL MAILER FORWARD LIST
```

The third command will show you how the forwarding has been set, so that you can verify that your forwarding was registered correctly. For example, if I wanted to forward my CMS Mail to my WPO 3.1 Mail then I would enter the same commands but replace the address part with:

mears%cc1@wpo.unt.edu

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

BITNET: A Status Report

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

We have been talking about dropping our BITNET connection since last year. As of December, 1994 we stopped paying CREN, BITNET's parent organization, for our connection. So far, CREN has not removed UNT from the BITNET routing tables, thus preserving our membership. At some point in time, probably in the near future, UNT will be removed and we won't be a BITNET site anymore.

As was stated in the article [Drop of BITNET Connection Likely](#) that appeared in the [July/August 1994 issue of *Benchmarks* \(Vol. 15, No. 4, pg. 8\)](#), once we are no longer active members of BITNET, only services which rely on interactive messages (sent via the CMS TELL command) will no longer be available. Most mailing list subscriptions will not be affected and LISTSERV services will still be accessible via a mail message. LISTSERV subscription addresses have been converted to the Internet format for the nodename for CMS (vm.acs.unt.edu) or the VAX (vaxb.acs.unt.edu).

Your Internet Address

If you haven't already done so, it is very important to begin using your Internet address when exchanging addresses with colleagues around the country or world.

Your Internet address on CMS is: userid@vm.acs.unt.edu

Your Internet address on the VAX is: userid@vaxb.acs.unt.edu

Userid is your CMS or VAX User-ID. If you have questions about BITNET, please contact Dr. Philip Baczewski (baczewski@unt.edu, ISB 119, 565-2324).

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Suggested Use of Group Everyone in WPO Mail

By [Dr. Philip Baczewski](#), Assistant Director of Academic Computing (baczewski@unt.edu)

This is an edited version of an article that appeared in the September/October 1993 issue of Benchmarks (Vol. 14, No. 5, pg. 32).

The following suggestions are offered concerning the broadcast of messages to a wide range of on-campus E-mail recipients, and specifically, to the Word Perfect Office (WPO) Mail distribution group **EVERYONE**.

1. In general, use of any UNT electronic mail system should support the mission and goals of the University.
2. Since electronic mail to WPO group **EVERYONE** reaches a broad spectrum of faculty, staff, administrators, and students, it should be used with the same discretion as any other form of business communication distributed campus-wide. One should employ the same criteria as one would use in judging whether to send out an on-paper memo to all faculty and staff: Is the message of sufficient interest to be broadcast to a general population? Is it informational, or does it request information from a wide variety of individuals? Is it University-related business?
3. When appropriate, distribution groups smaller than WPO Mail's **EVERYONE** should be used to distribute messages. For example, other groups are available (press [F5], and select Groups), such as **NTFACULTY**, the group containing UNT faculty who use WPO Mail. (Unfortunately, these groups are greatly in need of cleaning up, however, you may still find your target audience in one of them.) Messages can also be sent to all users on one particular Novell host file server. Personal groups, listing a number of individuals, can be easily created, modified, and shared with other users.
4. For some types of messages, alternatives to E-mail broadcasts should be used. USENET News is a facility which supports mail-like discussion groups. UNT has some local USENET groups, such as **UNT.GENERAL** or **UNT.ANNOUNCE** which may be used for general inquiries or announcements. Additional local groups can be created if there is a need. Gopher is a system which can allow departments to submit information for general viewing. Both of these facilities are still being developed on our campus and may not yet be available on your file server. [Contact your network manager or Computing Center Support Services (ext. 2324) for more information.]
5. Remember, WPO's **EVERYONE** does not include all members of the University. Even among all network computer users, there are many who communicate exclusively via other mail systems such as Pegasus Mail.

A WPO Mail Tip

Many people complain about the interruption caused by WPO Mail's notification. As a sender of a WPO Mail message, you can specify that your message NOT notify the recipient (press [F8], Message, Notify, No). In this way, the recipient will not be aware that a new message has arrived until he/she enters the WPO Mail program. Also, be aware that the incoming message notification

feature is configurable (i.e. it can be disabled for your network account); contact your network manager for more information.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

The Network Connection

by [Dr. Philip Baczewski](#), Assistant Director, Academic Computing Services (baczewski@unt.edu)

This column is a continuing feature of *Benchmarks* intended to present news and information on various aspects of wide area networks.



Know Your Mail Header

If you have received Internet mail, you may have noticed all that stuff at the top which we technical types like to call the mail header. The part you usually notice may be the Date:, To:, From: and Subject: fields, but some other parts may be useful on occasion as well. The basic rules for constructing mail headers are known by most E-mail programs and are described in a document known as RFC 822 (RFC stands for Request for Comment and RFCs are numbered sequentially as they are published on the Internet). It is the standardization of these header fields that allow differing computer systems to easily transmit mail across the Internet.

By examining a typical message header, we can gain further understanding of the different fields and perhaps gain additional insight for interpreting messages which have delivery problems or a less than clear origin.

What follows below is a typical Internet mail header. It was part of a message sent to me by one of UNT's former staffers. At first glance, it might seem quite a jumble, but by analyzing different sections, its interpretation becomes quite a bit easier.

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMTMP id 3111; Wed, 21
Dec 94 13:30:17 CST
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1) with TCP;
Wed, 21 Dec 94 13:29:46 CST
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed, 21 Dec 94 13:28:48
CST
Message-Id: 11928.AA28265@is.rice.edu
X-Sender: kevinm@is.rice.edu
X-Mailer: Windows Eudora Version 1.4.3
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Wed, 21 Dec 1994 14:30:59 -0600
To: ac12@vm.acs.unt.edu
From: kevinm@is.rice.edu (Kevin Mullet)
Subject: Kermit snippet
```

It may help to examine this header in reverse. From the bottom up, the first part should be familiar:

```
Date: Wed, 21 Dec 1994 14:30:59 -0600
To: ac12@vm.acs.unt.edu
From: kevinm@is.rice.edu (Kevin Mullet)
Subject: Kermit snippet
```

The last section, shown above, has the date, sender's address, recipient's address, and the message subject. This is the easy part. The rest might need more explanation.

```
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
```

The above two lines indicate that the mail program used to send the message supports the MIME protocol (allowing multimedia attachments). The first line shows the MIME version used and the second line shows the nature of any attachments, in this case simply a text-only message.

Working our way up the header, we find the following two lines:

```
X-Sender: kevinm@is.rice.edu
X-Mailer: Windows Eudora Version 1.4.3
```

Any field starting with an X indicates an extension to the normal header fields. Extensions can be inserted by the mail program (and sometimes by the mail program user) and provide information which may not be part of a standard header or which might be useful to the receiving mail program when processing an incoming message. These two lines confirm the sender of the message and indicate what mail program was used to send it.

Every Internet message is given an arbitrarily assigned message identification and this is shown in the following line:

Message-Id: 11928.AA28265@is.rice.edu

You can see that the message ID above is partly formed from message date (941221 is derived from Dec. 12, 94) and ends with the originating node.

The first three lines of the header show the path your message took to reach you:

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMTTP id 3111; Wed, 21
Dec 94 13:30:17 CST
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1) with TCP;
Wed, 21 Dec 94 13:29:46 CST
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed, 21 Dec 94
13:28:48 CST
```

There are actually three header fields defined here, each beginning with the Received: header element. These are listed in the reverse order of actual transmission. Examining these one at a time from the bottom up we can see the path that this message traversed to reach me.

```
Received: from brigadoon.rice.edu by is.rice.edu (AA28265); Wed, 21 Dec 94
13:28:48 CST
```

The above line shows that the message started from a machine named brigadoon.rice .edu and was transmitted to is.rice.edu . Moving up our header example we see:

```
Received: from is.rice.edu by VM.ACS.UNT.EDU (IBM VM SMTP V2R1) with TCP;
Wed, 21 Dec 94 13:29:46 CST
```

The computer, **is.rice.edu** transmitted the message to **vm.acs.unt.edu** (UNT s academic mainframe). The Received field also shows what software facility handled the transaction. In the parentheses above, we can see that this was received by the IBM VM SMTP software (the Internet mail program).

Finally, the message gets to me:

```
Received: from UNTVM1 by VM.ACS.UNT.EDU (Mailer R2.07) with BSMTTP id 3111; Wed,
21 Dec 94 13:30:17 CST
```

VM s Mailer program is the software that actually delivered the message to my CMS User-ID. You will also notice that each Received: field shows the time that the mail transaction (the passing of the message from one computer system to another) occurred. If you think your mail is delayed in arriving, you can check the Received fields to see if it is getting stuck at some point along the way.

That s the end of Headers 101 and hopefully, this has been a revelation of some of that Internet mystery. You can find out more by reading RFC 822 or any number of Internet books that are available commercially. I can t reveal all the Internet mysteries here, however. After all, you have to

hold back some of those mysteries if you are going to be considered a guru.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

List of the Month

Each month we will highlight one BITNET, Internet, or USENETS special Interest Group (SIG) mailing list. This month's list...

IECC-HE via IECC-HE-REQUEST@STOLAF.EDU

IECC-HE Intercultural E-Mail Classroom Connections in Higher Education is a new mailing list intended for teachers seeking partner teachers in institutions of Higher Education for international classroom electronic mail exchanges.

This list was created due to the high volume of postings to the existing IECC [International E-mail Classroom Connection] mailing lists (now with almost 2000 participants in 30 countries).

The IECC [which serves as a meeting place for teachers seeking partner classes for international and cross-cultural electronic mail exchanges], IECC-PROJECTS [for people to announce and request help with specific projects that involve E-mail, internationally or cross-culturally] and IECC-DISCUSSION [for general discussion about questions, issues, observations, etc. in the Intercultural E-mail Classroom] mailing lists remain unchanged.

To subscribe to this list, send a message with the word subscribe to iecc-he-request@stolaf.edu.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

U.S. Postal Service Experiments With E-mai

From [EDUPAGE \(12/22/94\)](#) an electronic summary of news items on information technology.

The U.S. Postal Service is experimenting with a system that would allow it to optically scan the data from business reply cards and send it electronically to mail-order and subscription houses. The service would make reply cards more competitive with 800 numbers, which are costly to maintain. The Postal Service plans to offer the new service in the second half of 1995 (Wall Street Journal 122/22/94).

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

The Mail Bomber is Back

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

Since 1978, someone has been mailing bombs to people associated with technology in some way, mostly university professors and commercial airlines. Two people have been killed and 23 injured in 15 attacks over the last 16 years. On December 10, after a hiatus of 6 years, the bomber struck again. This time his target was Thomas Mosser, a New York City advertising executive. Mosser was killed at his kitchen table as he opened the package.

The FBI has set up a toll-free hotline for people to call in any tips they may have about the bomber (1-800-701-BOMB). There is a \$1-million reward.

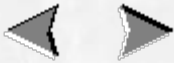
They believe the bomber may work at a university. He is thought to be white, in his late 30s or early 40s, about 6 ft. tall, with fair hair, a thin mustache and glasses. He is probably a quiet person, a typical nice guy neighbor. (["A Serial Bomber Strikes Again," TIME, December 26, 1994-January 2, 1995, pg. 128](#))

UNABOM, as the FBI calls this case, background and update information is available at:

- World Wide Web: <http://naic.nasa.gov/fbi>
- Gopher: <gopher://naic.nasa.gov/11/government-resources/fbi>
- Anonymous FTP: <ftp://naic.nasa.gov/>

According to this update information, Internet users are precisely the type of individuals that to date have been the recipients of explosive devices attributed to UNABOM; scholars and researchers.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Staff Activities

Transitions

New Employees since June, 1994:

- **Stephanie Johnson**, General Access Lab
- **Sean Mills**, Operations
- **Denise Todd**, Operations
- **Steven Reeves**, General Access Lab
- **Phanit Laosirirat**, ACS
- **Aaron Price**, ACS
- **Lisa Sheehan**, ACS
- **Randy Galloway**, E-mail Analyst
- **Gail Greeney**, Data Entry
- **Sreedhar Donthula**, General Access Lab
- **Angela LeGare**, Data Entry
- **Mark Adamson**, Network and Microcomputer Services

Employees Resignations since June, 1994:

- **Mark Thacker**, ACS
- **Cynthia Koepp**, ACS
- **Lek Thanavibulpol**, HRMIS
- **Carol Coleman**, Fiscal Systems
- **Chris Williams**, ACS
- **Brenda Yu**, Data Entry
- **Betsy Mattucci**, Data Entry
- **Mike Wiginton**, General Systems

Publications and Presentations

- **Dr. Philip Baczewski**, Assistant Director of Academic Computing, presented a paper entitled Investigation of Musicians Cognitive Processes Through Analysis of Notational Errors, co-authored with Dr. Rosemary N. Killam, Associate Professor of Music at UNT, at the annual meeting of the Society of Music Theory in Tallahassee, Florida, November 4, 1994.
- Dr. Baczewski also had chapters published in two books recently. **Tricks of the Internet Gurus** (Sams Publishing) contains four chapters by Dr. Baczewski, while **Academic Libraries and Training** (Jai Press Inc.) contains one.
- **Dr. Panu Sittiwong**, Research and Statistical Support Manager for ACS, presented a paper titled Implementing the SAS Executive Information System in the University Environment: The UNT Experience. at the annual meeting of the South Central SAS Users Group in San Antonio, November 7-9.

[Previous Article](#)



[Next Article](#)



If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu



News From the CWIS/Gopher Hole

By Doug Bateman, CWIS Coordinator (dbateman@unt.edu)

This column covers features and resources available through the University's Gopher Campus Wide Information System (CWIS). Gopher is available on various UNT host computers including the VAX, Sol, and Jove. It is also available in the General Access Labs and on various Novell file servers around campus.

New Kid on the Block

I seem to be fulfilling my own ideal of manifest destiny in regards to my employment with the Computing Center. In the beginning, I was a half-time, student employee at the Help desk where I was primarily working one-on-one with people doing battle with their personal computers. Now I am involved in helping UNT establish a place for itself in the miasma of the Internet, as well as helping all of you connect with the world. Ain't America grand!

In case anyone missed it, I'd like to call your attention to the new name under the title of this column. My predecessor, Mark Thacker, has moved on to (allegedly) greener pastures as the resident Internet guru for the University of Texas Southwestern Medical Center in Dallas. I have recently been promoted into his position so I'd like to take an opportunity in this issue's column to introduce myself. But rather than risk boring you right away, I'm going to save the introduction for later.

So, Where Are the Pointers?

Might as well stop reading now if all you were looking for was a list of pointers to World Wide Web (WWW) or Gopher sites. You won't find them in this column this time, mainly because I have recently modified UNT's WWW welcome page by adding a link to a document that contains over 2,000 WWW sites organized into over 50 categories by major subject focus. Since I can't reproduce all of that information here, I'd feel a little foolish listing only a handful of sites here when there are thousands just a click away.

Don't be too disappointed, however. I'll have some for next time. And for those of you who do not know me very well yet, let me tell you that I often have a rather obtuse way of looking at the world, so I have a penchant for collecting the more offbeat, out of the ordinary, locations.

For example, care to spy on the office of the Director of the Center for Innovative Computer Applications (CICA) at Indiana University? Just travel to <http://www.cica.indiana.edu/htbin/camera> where one of the graphics programmers rigged a small video camera and trained it on the Director as a joke. A screen capture program updates an inline graphic periodically. (The director knows about it now and considers it an innovative application so has left it on, though it now points towards the door.)

Change is a Good Thing

Here's a word of warning to foreshadow the changes that lie ahead in the structure and electronic delivery of information from UNT's computing resources. Just about everyone who moves into a new job looks around at the way things used to be done and figures he or she can do better. Well, I'm no different in that regard so I hope you are prepared to see some subtle and not-so-subtle changes in the coming months.



I look at my job as being more of a facilitator than an instigator. (I think that's where the Coordinator in my job title comes from.) So, when it comes to making information available via Gopher, WAIS, World Wide Web, or whatever, I intend to do my utmost to provide the best, most modern and efficient means for you the student, the research assistant, the administrative assistant, the department head, the director, the dean, and yes even the Chancellor to make the information you deem important available to all.

Certainly, I can't generate all of that information myself (even if I wanted to), so I am relying on all of you to call my attention to what is needed and to contribute.

What's Ahead

Since it was only a couple of weeks ago that we all went through the process of making resolutions for the new year, I thought I'd share some of the things I see happening this year in my particular area (first let me dust off my crystal ball):

It won't be much longer before everyone at UNT will have the capability of creating and serving up their own personal WWW home page. This is high on my list for the coming year.

UNT will finally offer SLIP/PPP access to students, making it possible for you to make use of the latest and greatest graphical tools for exploring the Internet from your home, e.g. NetScape, Chameleon, etc. In (greatly) simplified terms, SLIP (Serial Line Internet Protocol) and PPP (Point-to-Point Protocol) are the preferred means of fooling your computer into thinking it is directly connected to the Internet.

Every college and department on campus will have its own place on UNT's web server. We'll see information listed such as descriptions of degree programs, faculty bios, courses offered, and current research being conducted within the department. (Another hot item for me.)

True on-line registration! I can see UNT augmenting its current telephone registration process by offering the capability of pointing your favorite web browser to the right page and filling out a registration form from the comfort of your own home.

(I really should insert a disclaimer here, lest anyone get the impression that I actually have the power or authority to see that all of these things come to pass. These are just my opinions and/or hopes, folks.)

What's New

After prognosticating about what I hope to see happen on campus, let me tell you about a couple of things that are already in place. You can now find portions of the undergraduate and graduate catalogs, as well as the complete Spring 95 Schedule of Classes, on UNT's Gopher and WWW servers. This is really an exciting time we are traveling through as far as access to information is concerned.

Speaking of Short Courses

I can't let the opportunity pass to tout the Computing Center Short Courses that are being offered this semester. Please, please, please check them out and sign up. You'll find some very good courses being offered regarding the Internet, and even a trial course on Basic HTML (HyperText Markup Language) in anticipation of students creating their own WWW home pages. Look in the back of this issue for registration information, or come to the Support Services office in ISB 119, or look for on-line registration for these courses on UNT's Gopher and WWW servers. **Don't miss this opportunity!**

Personal Commercial Time

So, who or what am I? First, the reason I feel this necessary: I personally find it discomforting to be reading something that is supposed to be authoritative without knowing something about the background of the author. Here s my story...

My first exposure to computers came in an honors mathematics class in my senior year of high school. Now, this wouldn t be very interesting at all of I didn t let you know that I graduated high school in 1968! Yes, I have been involved with computers longer than many of you reading this have been alive. [sigh] That s just one of the many crosses I have to bear.

I was lured from my first foray into higher education by my first professional job: programmer/systems analyst for a commercial firm. I have the dubious honor of having started my professional career as an RPG programmer on IBM System 360 mainframes. Punched card decks and all!

I have dabbled in contract programming, systems programming on time-sharing systems (hot items in the early 70 s), independent consulting, retail sales of hardware and software, educational sales rep for Apple and IBM dealers, and even a stint in very esoteric research and development work under government contract.

My computer involvement took a decade-long nose-dive thanks to Uncle Sam and the US Army, but I survived and didn t lose too much of my flower-child of the 60 s outlook. While I didn t make it to the original Woodstock, there were plenty of other rock festivals I did make it too. (My hearing hasn t been the same since!)

My first personal computer was a Radio Shack TRS-80 Model III with a single floppy drive, no hard drive, and a whopping 32Kb of memory. Actually, that was more memory than the first [IBM](#) mainframe I worked on had! I graduated to a rock-solid Kaypro II CP/M system, which I still have by the way. And then it s been one IBM-compatible and/or Apple Macintosh after another since.

Computers are my avocation as well as vocation, much to the chagrin of my teenage daughter. But I like them. They re my friends. [woa!]

That s enough of that and this is as good a place to stop as any. Look for more ramblings in the next issue and keep tuning in to the UNT Gopher and World Wide Web-you never know what you might find.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

New CMS Documents Available

The Academic Mainframe User Services area of ACS has produced two new CMS documents recently. [Introduction to CMS](#) provides a brief overview of the CMS operating system and is designed to be a quick introduction to using the CMS system.

It replaces the document Introduction to the Conversational Monitor System(CMS), and is available in ISB 119. Using CMS at the University of North Texas, is a larger, more comprehensive document. It can be purchased at the University Store for \$4, which covers the cost of reproduction. There are also a few documents related to CMS available via Gopher. [Click here to view them.](#)

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Jovian Update

By Amos Gouaux, Jove System Administrator (amos@unt.edu)

As many already know, the ACS general access UNIX system know as Jove has been under a pretty heavy load. Fortunately, we are well underway with our plans to upgrade this system.

Previously, Jove was a Solbourne 702 with two SPARC 40Mhz processors running a variation of SunOS 4.1.2. It is now a Sun SPARCserver 1000 with two SuperSPARC 50MHz processors running Suns latest operating environment, Solaris 2.4. Within the next couple of weeks, we'll be adding two more processors and additional memory.

The most apparent change is the Solaris operating environment, which includes SunOS 5.4 and OpenWindows 3.4. However, the most heavily used applications have been ported to this environment. We have been expanding the help command to try to ease this transition. Check news on Jove for the latest details about this transition. If you have any questions or concerns about the new system, send mail to **operator@jove.acs.unt.edu**

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

New Computer Art Lab

By [Aaron Price](#), Documentation Services Assistant (price@cc1.unt.edu)

People interested in computer art and desktop publishing will be pleased with the opening of the [School of Visual Arts](#) Computer Lab last semester. The new lab is located in the Art Building, room 231. They cater primarily to Macintosh users who are interested in computer graphics and design.

The lab was originally opened on a trial basis in Spring 1994 but was available to computer art students only. In Fall 1994, the lab became a General Access Computer Lab. This means that anyone with a valid student ID can use the lab.

Hardware

This semester the lab will have 14 Macintosh computers. Five of them are 7100 Power Macs and two are Quadra 650 s. All seven are equipped with 17" monitors. The minimum amount of RAM in these computers will be 16 megabytes while most will have 20 megabytes or more installed. A scratch drive will be created so that students will temporarily have access to up to 2 gigabytes of disk space.

Each computer is hooked up to a CD-ROM drive and a Syquest SCSI drive that allows you to buy and use your own hard drive on their computers. This spring the lab will be replacing some of the current 5.25" 44 megabyte Syquest drives with 5.25" 200 megabyte Syquest drives. All the new drives will be compatible with the 44 and 88 megabyte disks.

There are also three flatbed color scanners available. They are hooked up to Macintosh computers with Ofoto scanner software installed. In addition to the Macintosh computers, the lab currently has one Pentium based PC computer available for general use. This is expected to grow by at least two more in the Spring.

Applications

The applications that are supported in the lab all cater to computer art. Adobe Photoshop is installed for standard computer image manipulation and support. Macromind Director is available for computer animation. For desktop publishing, Aldus Pagemaker, Quark Express, Adobe Illustrator, and Aldus Freehand are installed among many others.

Policies

The lab follows most of the policies that the other General Access Labs follow. An exception is in the time limit, you are allowed two hours on a computer as opposed to the standard one when there is a wait.

Other Information

The Computer Art Lab is currently being connected to the campus wide Ethernet backbone. This means that full access to both the Internet and the Novell servers will be available. The process should be done early in the Spring semester. The Art Department also has set up a departmental file server (ART) that will free up more space on the computers for students to use.

If you have time this semester, stop by the new lab and try your hand at the exploding field of

computer graphics and animation.

Spring 95 Hours

Mon.-Fri.: 9 am-11 pm
Saturday: 9 am-5 pm
Sunday: Noon-10 pm

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Pentium Problems

By [Aaron Price](#), Documentation Services Assistant (price@cc1.unt.edu)

[Intel](#) rocked the computer industry with the announcement of a flaw in their most popular computer chip, the Pentium Processor in late 1994. Soon after, on December 12, [IBM](#), the world's largest computer maker, decided to halt all shipments of computers that contain the flawed Pentium chip.

Intel vs IBM

Intel's position has been that on an average MSDOS, Windows, or OS/2 based computer the flaw would manifest itself once in 27,000 years. They added, however, for computers that are running programs heavy in mathematics the flaw would indeed be noticeable and the chips in those computers would be replaced by Intel.

On the other hand, IBM is maintaining that the probability of an average user to encounter an error is once in every 24 days. IBM continues to defend their decision by saying that there are millions of Pentium users worldwide. So a large number of users are encountering errors in their operations every day.

What is the problem?

On November 30, Intel released a scientific document that explained the flaw in the chip. The Pentium achieves its high speed by using new technology in many areas of the chip. One of those areas is the floating point processor. It is this processor that is faulted.

When a certain combination of digits are divided by each other then the resulting answer comes up flawed. The error would occur in the fifth or higher significant digit that is being processed. The result could be unnoticeable or catastrophic, depending on the program being run.

What does this mean to me?

Maybe nothing. In fact, many applications do not use floating point algorithms at all. The chance on your program being effected depends directly on the dependance the program has on mathematics. For example, database and file servers probably will never encounter this error. Spreadsheets and other low intensive math programs may encounter the error, but not very often (Depending on whether you believe Intel or IBM). You will have a significant chance of encountering the error if you are running math intensive software such as fractal programs, scientific programs, etc.

How can I fix it?

Intel has set up a hotline to answer questions and negotiate a replacement procedure if one is needed. After intense public pressure Intel has agreed to replace all Pentium chips free of charge. All you have to do is supply them with the defective chip. If you feel you may have a problem or if you just want more answers call toll free **1-800-628-8686**.

If you have a UNT PC with a Pentium chip in it, you will be contacted by the Microcomputer Maintenance Shop so that they can replace the chip.

You can access official press releases and technical information about the problem from Intel's World

Wide Web server at URL: <http://www.intel.com/> Also, IBM s response can be accessed from their World Wide Web server at URL: <http://www.ibm.com/>

IBM just started shipping PCs with the Pentium chip in them again. Customers will have them replaced later, according to the company.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Pentium Problem Produces Plethora of Puns

The following jokes have been circulating on the Internet, following [Intels](#) announcement about the flaw in it's [Pentium](#) chip.

The Top Ten Reasons To Buy a Pentium Machine

1. It'll probably work!
2. You got a great deal from JPL.
3. You no longer have to worry about CPU overheating.
4. The Intel Inside logo matches your decor perfectly.
5. You've always wondered what it would be like to be a plaintiff.
6. You want to see what all the fuss is about.
7. You need an alibi for the I.R.S.
8. Math errors add zest to life.
9. You want to get into the Guinness Book as Owner of most expensive paperweight.
10. Your current computer is too accurate.

Q: How many Pentium designers does it take to screw in a light bulb?

A: 1.99904274017, but that's close enough for non-technical people.

Q: What do you get when you cross a Pentium PC with a research grant?

A: A mad scientist.

Q: What's another name for the Intel Inside sticker they put on Pentiums?

A: Warning label.

Q: What do you call a series of FDIV instructions on a Pentium?

A: Successive approximations.

Q: Complete the following word analogy: Add is to Subtract as Multiply is to

- 1) Divide
- 2) ROUND
- 3) RANDOM
- 4) On a Pentium, all of the above

A: Number 4.

Q: What algorithm did Intel use in the Pentium's floating point divider?

A: Life is like a box of chocolates. (Source: F. Gump of Intel)

Q: Why didn't Intel call the Pentium the 586?

A: Because they added 486 and 100 on the first Pentium and got 585.999983605.

Q: According to Intel, the Pentium conforms to the IEEE standards 754 and 854 for floating point arithmetic. If you fly in aircraft designed using a Pentium, what is the correct pronunciation of IEEE?

A: Aaaaaaaiiiiiiiiieeeeeeeeeeeee!

Top ten new Intel slogans for the Pentium:

1. The Errata Inside
2. Were Looking for a Few Good Flaws
3. Division Considered Harmful
4. Why Do You Think They Call It *Floating* Point?
5. We Fixed It, Really
6. Redefining the PC and Mathematics As Well

- 
7. You Don't Need to Know What's Inside
 8. Nearly 300 Correct Opcodes
 9. It's Close Enough, We Say So
 10. It's a FLAW, not a Bug

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Information Resources Council News

Minutes provided by Sue Harrison, Recording Secretary

IRC Regular Voting Members: Ray von Dran, Library and Information Sciences (Chair); Cengiz Capan, College of Business; Jim Cappel, Graduate Student Council; Carolyn Cunningham, Student Affairs; Paul Dworak, College of Music; Brian Forsman, UNTHSC Information Resources Council; Chuck Fuller, Fiscal Affairs; Larry Gleeson, School of Visual Arts; Don Grose, Libraries; David Hartman, School of Community Services and School of Merchandising and Hospitality Management; Sam Magill, UNTHSC Director of Information Technology Services; Steve Miller, Administrative Affairs; Tom Newell, Telecommunications (Ex-officio); Don Palermo, Academic Administration; Jean Schaaque, College of Arts and Sciences; Paul Schlieve, College of Education; John Todd, Faculty Senate; Virginia Wheelless, Associate Vice President and Director, University Planning and Institutional Research; Steve Williams, Undergraduate Student Association. IRC Ex-officio Nonvoting Members: Bill Buntain, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Paul Gandel, Computing Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center.

October 11, 1994

Instructional Technology Program Group

Paul Gandel reported that the Instructional Technology Program Group is going forward with the focus group study of how faculty use instructional technology. A stratified random sample of faculty has been chosen for the focus groups and the committee hopes to have the results by the Spring semester. Paul also reported that the Program Group is working with the Registrar's office to conduct a room/space survey and hopes to have that completed by January or February. The data collected will be used in the scheduling of rooms for classes.

Cengiz Capan reiterated his concern that allocations for improving the classroom situations need to be made this year and urged the Program Group to bring their recommendation to the IRC as soon as possible.

Standards & Cooperation Program Group

Susan Pierce reported that the Standards & Cooperation Program Group is working on identifying the highest priority strategies to meet the goals of the 1995-99 Strategic Plan. The group would like to add two more strategies:

1. come up with strategy that would ease UNT's migration to the graphical user interface (GUI); provide a training program to enable all computers to migrate by a certain date; possibly setting a GUI standard; and
2. as people migrate to GUI, they may need or want to consider alternative basic desktop applications, and to save everyone a lot of pain, we could recommend a couple of suites of products and then provide training for those.

The Chair urged the Standards & Cooperation Program Group to go forward on a standardization of spreadsheet format. It was suggested that while everyone is moving to GUI this would be a good time to also set some standards in this area.

Administrative Program Group

Joneel Harris reported that the Administrative Program Group met on October 6 and invited the Strategic Planning Committee members to attend because of a presentation given by Bill Buntain on distributed databases and the infostructure to leverage our mainframe resources.

Electronically Enabled Communication Commission

Ray von Dran reported that the Electronically Enabled Communication Commission met on October 6 and accepted its charge. He distributed a list of the members, as well as a list of tasks that the Commission has agreed to accomplish. He announced that there is an Open Forum scheduled for October 21, 8:30 a.m. - 11:30 a.m., in the University Union, Room 411, where Bill Buntain and Cengiz Capan will make a presentation of the issues and where those in attendance can offer their comments and opinions. The Commission is also in the process of developing a survey instrument which will be distributed to all faculty and staff.

December 13, 1994

Working Meeting and EECC

It was acknowledged that the IRC had held a working meeting on December 6, 1994, to discuss the final report and recommendation of the Electronically Enabled Communication Commission (EECC). There were no minutes recorded at that meeting.

The final report of the Electronically Enabled Communication Commission (EECC) was presented by the Chair for discussion. It was suggested that an implementation task force be formed to assist with the pilot project of setting up GroupWise in several areas of campus. Lengthy discussion followed during which the council generally agreed that an advisory group would be helpful to Bill Buntain in administering this pilot project; however, the group consented to allow Bill to consult with, and organize the appropriate people across the campus to assist in the implementation of the project. It was also agreed that in each department on campus there should be a contact person for Bill Buntain to deal with, who would then keep his/her department informed at all stages and phases of the GroupWise implementation. The final report and recommendation of the EECC was approved.

Program Groups Goals, Objectives, Strategies & Action Plans

Susan Pierce opened discussion of the draft document she had distributed electronically prior to the meeting which combined all of the IRC Program Groups Goals, Objectives, Strategies and Action Plans. Susan pointed out that she had marked the strategies in the document which directly support the university priorities set by Chancellor Hurley in a recent memo to the faculty and staff. Susan asked members to review the document to determine if it really presents the biggest critical issues for the coming year. In response to a suggestion from the floor, Susan agreed to split the document into two separate ones - one showing the Goals, Objectives and Strategies, and the second one showing the action items. The Strategic Planning Committee will meet in early January to review all of the comments received by that time. A new draft document will then be distributed to the Council for adoption at its January 17th meeting.

Software Licensing

Richard Harris reported that the Internal Auditors had made a report to the President's Staff concerning software licensing compliance, and distributed two documents:

1. Guidelines for Software Licensing Compliance, and
2. a memo from Internal Audit Department concerning an audit of University departments.

Richard explained that Phil Diebel had asked him to chair a committee to study this issue and make a recommendation to the IRC Steering Committee about what the university needs to do to implement a university-wide policy. Mr. Diebel suggested that Larry Hoke from Purchasing and Tim Edwards from Internal Audit be on the committee and that the committee report through the IRC. The Chair then asked Claudia Lynch, and John Todd to serve on this committee in addition to Larry Hoke, Tim Edwards, and Richard Harris, and be ready to make a report to the Council at its January 17 meeting.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Free Maple V Demo Available

By Dianna Laakso, Computer Support Assistant

Maple V - Interactive Computer Algebra System, Mathematica's leading competitor, is a powerful and efficient symbolic math software package with capabilities ranging from exploratory learning in math education to research problems in quantum chemistry.

Among its other features, Maple V provides sophisticated scientific visualization, programming, and documentation capabilities, including the ability to work with standard mathematical notation. Maple V runs on many platforms including DOS/MS-Windows, Macintosh, NeXT, LINUX, IBM RS/6000, Sun 4/Sparcstation, and Sequent Symmetry. Free demos for DOS/Windows, Macintosh, and UNIX are available via anonymous FTP from <ftp://ftp.maplesoft.on.ca/pub/maple/> General information on Maple V is also available via the World Wide Web at <http://daisy.waterloo.edu/>

[Previous Article](#)



[Table of Contents](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Computing and the Law

By [Claudia Lynch](#), *Benchmarks Editor* (lynch@unt.edu)

When I first wrote about this topic in the summer of 1993, (Computing and the Law, *Benchmarks* Volume 14, No. 4, Summer 1993, page 1). I noted that computing for the masses is a relatively recent phenomenon. In fact, the original IBM PC was only introduced in 1981, which was the same year that BITNET became operational. ARPANET (parent of the Internet) started in 1969, but it wasn't used by the general public until after 1983, when it split into two networks, ARPANET and MILNET. One should not be surprised, then, that the laws relating to the use of computers and computer networks are still evolving.

Laws dealing with computers and their uses are often confusing, conflicting, and/or not very well thought out. The purpose of this issue of *Benchmarks*, therefore, is the same as it was when we focused on Computing and the Law in 1993 to make you aware that there are legal issues involved with computer usage.

University Policy

The *University Policy Manual, Volume II Administrative and Fiscal* has a section on computers that contains various policy statements about computer usage on campus. According to the Computer Resources Security Policy statement (August 23, 1991, pg. 1 of 7):

All use of computer resources is subject to federal and state regulations and laws, including, but not limited to: The Texas Computer Crimes Statute (Section 1, Title 7, Chapter 33 of the Texas Penal Code); Federal Copyright Law, Title 17, Section 117; and the Family Educational Rights and Privacy Act of 1974.

Computing resources are defined as any and all computerized institutional data, computer hardware assets, and computer software assets owned or licensed by the university.

Its a Privilege

The University defines access to computer resources as a privilege. The Computer Resources Security Policy, *University Policy Manual, Volume II Administrative and Fiscal* (August 23, 1991, page 3 of 7), states that:

Users of university computer resources must not abuse or allow others to abuse their access to university computer resources.

Access to the university computer resource of any computer installation must be approved by the management of that computer installation. All individuals authorized to use university computer resources are responsible for all usage of their logon access and should keep their passwords confidential to protect university computer resources.

Users may not access University computer resources without appropriate authorization and then only for purposes for which their access is authorized.

Any attempt to access or to assist in the access of university computer resources via an unauthorized means is a violation of this policy and may subject the perpetrator(s) to sanctions hereunder.

Furthermore, this same document (page 6 of 7) lists the following responsibilities of individual employees and/or students:

- a.All individuals, whether faculty, staff employees or students, may be required to sign a confidentiality agreement upon receiving the privilege of using university computer resources.
- b.All individuals must comply with university computer resource policies and standards.
- c.All individuals authorized to use university computer resources are responsible for all usage of their logon access and should keep their passwords confidential to protect university computer resources.
- d.All individuals who use wide-area network services (such as BITNET or the Internet) provided via university computer resources shall abide by the policies of those networks.
- e.All individuals shall not attempt to access university computer resources for which they have no authorization.

Sanctions

The following sanctions are in place, should one violate University computer resource policies (Computer Resources Security Policy, *University Policy Manual, Volume II Administrative and Fiscal*, August 23, 1991, page 6 of 7).

6.1 Penalties for violation of this policy range from loss of computer resource usage privileges to dismissal from the university, prosecution, and/or civil action. Each case will be determined separately on its merits. Referrals for legal action will be made through the Office of the General Counsel.

6.2 If the offender is a faculty member, his or her supervisor (usually the department chair) shall initially recommend to the dean and thereafter to the Provost the appropriate sanction. When termination is recommended, the faculty member may appeal to the University Review Committee or to the University Tenure Committee, whichever is appropriate per the University of North Texas Faculty Handbook.

6.3 If the offender is a staff member, the procedures to be followed are those specified in the Discipline and Discharge Policy of the University of North Texas Personnel Policy Manual.

6.4 If the offender is a student, the procedures to be followed are those specified in the Code of Student Conduct and Discipline as printed in the University of North Texas Student Guidebook. If the student in violation of this policy is also an employee of the university, sanctions may include termination of employment.

Federal and State Computer Crime Laws

The laws listed on the following pages are currently being used to decide whether a computer crime has been committed either at the federal level or in the state of Texas. People can also be charged with criminal activity by violating various other Federal statutes with regard to copyright infringement, wire fraud, patent infringement and a host of other related laws (this is where things get messy).

Federal Law

UNITED STATES CODE SERVICE THIS SECTION IS CURRENT THROUGH 102 P.L. 82, APPROVED 08/06/91 *** TITLE 18 - CRIMES AND CRIMINAL PROCEDURE PART I. CRIMES CHAPTER 47. FRAUD AND FALSE STATEMENTS 18 USCS

@ 1030 (1991) @@1030. Fraud related activity in connection with computers (a) Whoever- (2) intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains information contained in a financial record of a financial institution, or of a card issuer as defined in section 1602(n) of title 15, or contained in a file of a consumer reporting agency on a consumer, as such terms are defined in the Fair Credit Reporting Act (15 U.S.C. 1681 et seq.); (3) intentionally, without authorization to access any computer of a department or agency of the United States, accesses such a computer of that department or agency that is exclusively for the use of the Government of the United States or, in the case of a computer not exclusively for such use, is used by or for the Government of the United States and such conduct affects the use of the Governments operation of such computer;

(4) knowingly and with intent to defraud, accesses a Federal interest computer without authorization, or exceeds authorized access, and by means of such conduct furthers the intended fraud and obtains anything of value, unless the object of the fraud and the thing obtained consists only of the use of the computer;

(5) intentionally accesses a Federal interest computer without authorization, and by means of one or more instances of such conduct alters, damages, or destroys information in any such Federal interest computer, or prevents authorized use of any such computer or information, and thereby- (A) causes loss to one or more others of a value aggregating \$ 1,000 or more during any one year period; or B) modifies or impairs, or potentially modifies or impairs, the medical examination, medical diagnosis, medical treatment, or medical care of one or more individuals; or

(6) knowingly and with intent to defraud traffics (as defined in section 1029) in any password or similar information through which a computer may be accessed without authorization, if- (A) such trafficking affects interstate or foreign commerce; or (B) such computer is used by or for the Government of the United States; shall be punished as provided in subsection (c) of this section. (b) Whoever attempts to commit an offense under subsection (a) of this section shall be punished as provided in subsection (c) of this section. (c) The punishment for an offense under subsection (a) or (b) of this section is-

(1)(A) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(1) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and (B) a fine under this title or imprisonment for not more than twenty years, or both, in the case of an offense under subsection (a)(1) of this section which occurs after a conviction for another offense under such subsection; or an attempt to commit an offense punishable under this subparagraph; and

(2)(A) a fine under this title or imprisonment for not more than one year, or both, in the case of an offense under subsection (a)(2), (a)(3) or (a)(6) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(B) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(2), (a)(3) or (a)(6) of this section which occurs after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(3)(A) a fine under this title or imprisonment for not more than five years, or both, in the case of an offense under subsection (a)(4) or (a)(5) of this section which does not occur after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph; and

(B) a fine under this title or imprisonment for not more than ten years, or both, in the case of an offense under subsection (a)(4) or (a)(5) of this section which occurs after a conviction for another offense under such subsection, or an attempt to commit an offense punishable under this subparagraph. (d) The United States Secret Service shall, in addition to any other agency having such authority, have the authority to investigate offenses under this section. Such authority of the United States Secret Service shall be exercised in accordance with an agreement which shall be entered into by the Secretary of the Treasury and the Attorney General. (e) As used in this section-

(1) the term computer means an electronic, magnetic, optical, electrochemical, or other high speed



data processing device performing logical, arithmetic, or storage functions, and includes any data storage facility or communications facility directly related to or operating in conjunction with such device, but such term does not include an automated typewriter or typesetter, a portable hand held calculator, or other similar device; (2) the term Federal interest computer means a computer - (A) exclusively for the use of a financial institution or the United States Government, or, in the case of a computer not exclusively for such use, used by or for a financial institution or the United States Government and the conduct constituting the offense affects the use of the financial institutions operation or the Governments operation of such computer; or (B) which is one of two or more computers used in committing the offense, not all of which are located in the same State; (3) the term State includes the District of Columbia, the Commonwealth of Puerto Rico, and any other commonwealth, possession or territory of the United States; (4) the term financial institution means-

- (A) an institution, with deposits insured by the Federal Deposit Insurance Corporation;
- (B) the Federal Reserve or a member of the Federal Reserve including any Federal Reserve Bank;
- (C) a credit union with accounts insured by the National Credit Union Administration;
- (D) a member of the Federal home loan bank system and any home loan bank;
- (E) any institution of the Farm Credit System under the Farm Credit Act of 1971;
- (F) a broker-dealer registered with the Securities and Exchange Commission pursuant to section 15 of the Securities Exchange Act of 1934;
- (G) the Securities Investor Protection Corporation;
- (H) a branch or agency of a foreign bank (as such terms are defined in paragraphs (1) and (3) of section 1(b) of the International Banking Act of 1978 [12 USCS @ 3101(1), (3)]); and (I) an organization operating under section 25 or section 25(a) of the Federal Reserve Act. (5) the term financial record means information derived from any record held by a financial institution pertaining to a customers relationship with the financial institution; (6) the term exceeds authorized access means to access a computer with authorization and to use such access to obtain or alter information in the computer that the accessor is not entitled so to obtain or alter; and (7) the term department of the United States means the legislative or judicial branch of the Government or one of the executive department enumerated in section 101 of title 5. (f) This section does not prohibit any lawfully authorized investigative, protective, or intelligence activity of a law enforcement agency of the United States, a State, or a political subdivision of a State, or of an intelligence agency of the United States.

HISTORY: (Added Oct. 12, 1984, P.L. 98-473, Title II, Ch XXI, @ 2102(a), 98 Stat. 2190; Oct. 16, 1986, P.L. 99-474, @ 2, 100 Stat. 1213; Nov. 18, 1988, P.L. 100-690, Title VII, Subtitle B, @ 7065, 102 Stat. 4404; As amended Aug. 9, 1989, P.L. 101-73, Title IX, Subtitle F, @ 962(a)(5), 103 Stat. 502; Nov. 29, 1990, P.L. 101-647, Title XII, @ 1205(e), Title XXV, Subtitle I, @ 2597(j), Title XXXV, @ 3533, 104 Stat. 4831, 4910, 4925.) The following amendment, passed on September 13, 1994 as part of the Violent Crime Control Act (PL103-322), changed portions of Title 18 USC sec 1030 text (cited on the previous two pages).

TITLE XXIXCOMPUTER CRIME SEC. 290001. COMPUTER ABUSE AMENDMENTS ACT OF 1994.

- (a) Short Title.This subtitle may be cited as the Computer Abuse Amendments Act of 1994. (b) Prohibition.Section 1030(a)(5) of title 18, United States Code, is amended to read as follows:
- (5)(A) through means of a computer used in interstate commerce or communications, knowingly causes the transmission of a program, information, code, or command to a computer or computer system if (i) the person causing the transmission intends that such transmission will (I) damage, or cause damage to, a computer, computer system, network, information, data, or program; or (II) withhold or deny, or cause the withholding or denial, of the use of a computer, computer services, system or network, information, data or program; and (ii) the transmission of the harmful component of the program, information, code, or command (I) occurred without the authorization of the persons or entities who own or are responsible for the computer system receiving the program, information, code, or command; and (II)(aa) causes loss or damage to one or more other persons of value aggregating \$1,000 or more during any 1-year period; or (bb) modifies or impairs, or potentially



modifies or impairs, the medical examination, medical diagnosis, medical treatment, or medical care of one or more individuals; or

(B) through means of a computer used in interstate commerce or communication, knowingly causes the transmission of a program, information, code, or command to a computer or computer system (i) with reckless disregard of a substantial and unjustifiable risk that the transmission will (I) damage, or cause damage to, a computer, computer system, network, information, data or program; or (II) withhold or deny or cause the withholding or denial of the use of a computer, computer services, system, network, information, data or program; and (ii) if the transmission of the harmful component of the program, information, code, or command (I) occurred without the authorization of the persons or entities who own or are responsible for the computer system receiving the program, information, code, or command; and (II)(aa) causes loss or damage to one or more other persons of a value aggregating \$1,000 or more during any 1-year period; or (bb) modifies or impairs, or potentially modifies or impairs, the medical examination, medical diagnosis, medical treatment, or medical care of one or more individuals;.

(c) Penalty. Section 1030(c) of title 18, United States Code is amended (1) in paragraph (2) (B) by striking and after the semicolon; (2) in paragraph (3)(A) by inserting (A) after (a)(5); (3) in paragraph (3) (B) by striking the period at the end thereof and inserting ; and; and (4) by adding at the end the following new paragraph: (4) a fine under this title or imprisonment for not more than 1 year, or both, in the case of an offense under subsection (a)(5)(B)..

(d) Civil Action. Section 1030 of title 18, United States Code, is amended by adding at the end thereof the following new subsection: (g) Any person who suffers damage or loss by reason of a violation of the section, other than a violation of subsection (a)(5)(B), may maintain a civil action against the violator to obtain compensatory damages and injunctive relief or other equitable relief. Damages for violations of any subsection other than subsection (a)(5)(A)(ii)(II)(bb) or (a)(5)(B)(ii)(II)(bb) are limited to economic damages. No action may be brought under this subsection unless such action is begun within 2 years of the date of the act complained of or the date of the discovery of the damage..

(e) Reporting Requirements. Section 1030 of title 18 United States Code, is amended by adding at the end the following new subsection: (h) The Attorney General and the Secretary of the Treasury shall report to the Congress annually, during the first 3 years following the date of the enactment of this subsection, concerning investigations and prosecutions under section 1030(a)(5) of title 18, United States Code..

(f) Prohibition. Section 1030(a)(3) of title 18, United States Code, is amended by inserting adversely before affects the use of the Governments operation of such computer.

State Law

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS SECTION 1, Title 7, Penal Code, is amended by adding Chapter 33 to read as follows:

CHAPTER 33. COMPUTER CRIMES Section 33.01.

DEFINITIONS In this chapter:

(1) Communications common carrier means a person who owns or operates a telephone system in this state that includes equipment or facilities for the conveyance, transmission, or reception of communications and who receives compensation from persons who use that system.

(2) Computer means an electronic device that performs logical, arithmetic, or memory functions by the manipulations of electronic or magnetic impulses and includes all input, output, processing, storage, or communication facilities that are connected or related to the device. Computer includes a network of two or more computers that are interconnected to function or communicate together.

(3) Computer program means an ordered set of data representing coded instructions or statements that when executed by a computer cause the computer to process data or perform specific functions.

(4) Computer security system means the design, procedures, or other measures that the person responsible for the operation and use of a computer employs to restrict the use of the computer to particular persons or uses or that the owner or licensee of data stored or maintained by a computer in



which the owner or licensee is entitled to store or maintain the data employs to restrict access to the data. (5) Data means a representation of information, knowledge, facts, concepts, or instructions that is being prepared or has been prepared in a formalized manner and is intended to be stored or processed, is being stored or processed, or has been stored or processed, in a computer. Data may be embodied in any form, including but not limited to computer printouts, magnetic storage media, and punchcards, or may be stored internally in the memory of the computer. (6) Electric utility has the meaning assigned by Subsection (c), Section 3, Public Utility Regulatory Act (article 1446c, Vernons Texas Civil Statutes).
Section 33.02.

BREACH OF COMPUTER SECURITY

(a) A person commits an offense if the person: (1) uses a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer and the actor knows that there exists a computer security system intended to prevent him from making that use of the computer; or (2) gains access to data stored or maintained by a computer without the effective consent of the owner or licensee of the data and the actor knows that there exists a computer security system intended to prevent him from gaining access to that data. (b) A person commits an offense if the person intentionally or knowingly gives a password, identifying code, personal identification number, or other confidential information about a computer security system to another person without the effective consent of the person employing the computer security system to restrict the use of a computer or to restrict access to data stored or maintained by a computer. (c) An offense under this section is a Class A misdemeanor.

Section 33.03.

HARMFUL ACCESS

(a) A person commits an offense if the person intentionally or knowingly: (1) causes a computer to malfunction or interrupts the operation of a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer; or (2) alters, damages, or destroys data or a computer program stored, maintained, or produced by a computer, without the effective consent of the owner or licensee of the data or computer program. (b) An offense under this section is: (1) a Class B misdemeanor if the conduct did not cause any loss or damage or if the value of the loss or damage caused by the conduct is less than \$200; (2) a Class A misdemeanor if the value of the loss or damage caused by the conduct is \$200 or more but less than \$2,500; or (3) a felony of the third degree if the value of the loss or damage caused by the conduct is \$2,500 or more.

Section 33.04.

DEFENSES.

It is an affirmative defense to prosecution under Sections 33.02 and 33.02 of this code that the actor was an officer, employee, or agent of a communications common carrier or electric utility and committed the proscribed act or acts in the course of employment while engaged in an activity that is a necessary incident to the rendition of service or to the protection of the rights or property of the communications common carrier or electric utility.

Section 33.05

ASSISTANCE BY ATTORNEY GENERAL.

The attorney general, if requested to do so by a prosecuting attorney, may assist the prosecuting attorney in the investigation or prosecution of an offense under this chapter or of any other offense involving the use of a computer.
SECTION 2. This Act takes effect September 1, 1985.

SECTION 3. The importance if this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three separate days in each house be suspended, and this rule is hereby suspended.





If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

PC Software Industry Lost \$8.08 Billion To Pirates In 1994

This article is an edited part of a February 24, 1995 press release by [The Software Publishers Association](#). The Software Publishers Association is the principal trade association of the PC software industry. Its 1,150 members represent the leading publishers in the business, consumer, and education markets. The SPA has offices in Washington, DC, and Paris, France. SPA press releases are available on-line through CompuServe (GO:SPAFORUM), and from SPA's faxback service at 800 637-6823. Contact (202) 452-1600: David Tremblay, Research Director, ext. 317, Ken Wasch, Executive Director, ext. 310, Sally Lawrence, Communications Director, ext. 320

The Software Publishers Association (SPA) released its latest global statistics on software piracy on February 24, 1995 to coincide with Vice President Gore's remarks before the G-7 Information Society Conference. The three-day meeting, broadly addressed issues surrounding the development of the Global Information Infrastructure (GII). The SPA report details high double-digit piracy rates in countries from all regions of the world. The report serves to underscore the threat large scale intellectual property theft poses to the development of the GII. Intellectual property rights are becoming increasingly critical in international trade negotiations as well, as evidenced in the recent stance taken by the USTR on intellectual property violations in China.

The SPA statistics contained herein summarize 1994 global software piracy activity. In 1994, the personal computer software industry lost \$8.08 billion due to illegal copying of business application software alone. The SPA estimates that just under half (49%) of the business software in use in 1994 was pirated. The estimates do not include illegal copying of operating systems, education, entertainment, or personal productivity software.

"The good news is that we see a decline of \$1.9 billion in revenue losses from theft of business software from 1993," said Ken Wasch, Executive Director of the SPA. The bad news is that drop is due entirely to declining prices of business software in country after country. Therefore, as sales volumes have increased and prices have declined, the volume of pirated units have nearly commensurably risen. Overall, the number of units pirated actually increased 14% in 1994. These figures clearly show that while some countries have shown improvement there is still a major problem in international markets."

China, Russia and Thailand Rates Exceed 90%

Of the countries for which the SPA is able to estimate piracy losses, China has the highest piracy rate at 98%. Russia at 95% and Thailand at 92% are close behind. All three countries poor records of protecting software copyrights led the SPA to cite them in its 1994 Section 301 filing with the US Trade Representative. Software industry losses to piracy in these three countries in 1994 were \$187 million in China, \$144 million in Russia and \$55 million in Thailand.

"China, Russia, and Thailand deserve credit for enacting copyright laws that specifically protect computer programs and other software," said Wasch. But the astronomic levels of software piracy in these countries illustrate what the SPA has learned in the US and abroad that the law is just the first step toward legal software use. Another crucial step is education teaching software users why they should not make illegal copies. We invite the governments and software users in China, Russia, and Thailand to work with us in sending that message."

Japan and US Have Highest Piracy Revenue Losses in the World

Piracy losses to software publishers in Japan were \$1.31 billion in 1994, higher than those seen in any country of the world. While the loss in Japan was down from \$1.66 billion in 1993, this decline was largely due to price declines. The number of units of software pirated fell only 6% in Japan between 1993 and 1994.

Piracy losses in the US fell from \$2.08 billion in 1993 to \$1.05 billion in 1994 - a nearly 50% decline. In spite of having one of the lowest piracy rates in the world, losses in the US are among the highest, however, because of the sheer size of the US personal computer hardware and software markets.

Western Europe Follows Trend

Piracy losses in Western Europe declined sharply in 1994, falling to \$1.65 billion from \$3.65 billion in 1993. Once again, however, much of the drop was due to the decline in software prices from 1993 to 1994. The rate of software piracy remained at a fairly high 45% in Western Europe in 1994. Piracy losses in France amounted to \$482 million in 1994, and were the highest of all countries in Western Europe. While most other Western European countries saw 10-20%+ declines in their piracy rates between 1993 and 1994, France's decline from 66% to 62% can only be called disappointing.

Results in other countries varied widely. Some countries, notably Switzerland and Finland, had among the lowest piracy rates in the world in 1994, while others, such as Spain and Portugal, had piracy rates above 70%. Of all the countries in Western Europe, the results in Italy in 1994 were the most distressing. Strong anti-piracy actions by the Italian government in early 1993 led to a much reduced piracy rate for all of 1993, and created great expectations for 1994. Unfortunately, these actions did not carry through into 1994. As a result, piracy in Italy was up in 1994, with the rate increasing from 66% to 68%. Although dollar losses in Italy fell from \$283 million in 1993 to \$264 million in 1994, the decline again was entirely due to price declines. The number of applications pirated in Italy rose 4% between 1993 and 1994.

Asian/Pacific Rim Markets Remain Piracy Problems

Of the eleven Asia/Pacific Rim markets for which SPA is able to develop piracy estimates, only two (Australia and New Zealand) had piracy rates below 50% in 1994. The software industry lost \$2.03 billion to pirates in this region in 1994, as the overall piracy rate was 62%. While this was a 25% decline from the \$2.72 billion loss (75% rate) of 1993, the decline was again due to the fall of application prices. The number of applications pirated increased by 1%.

Even in a region with many problem markets, China still stands out. Ninety-eight percent of the business applications software in use in China in 1994 was pirated.

"The Chinese government's unwillingness to take necessary actions to protect intellectual property has prompted the US government to cite China under Section 301 trade sanctions," said Mark Traphagen, Counsel for the SPA. We fully support the administration's firm stance against China and hope that it will force the authorities in China to take steps to remedy their well-documented piracy and counterfeit problem."

SPA Adds Home-Use Business Software to Analysis

SPA estimates are based on hardware sales figures from International Data Corporation, and on SPA and other industry software sales data.

"The SPA estimates now consider business applications used on home-based personal computers," said SPA Research Director David Tremblay. In previous years, our piracy analysis did not consider the purchase and use of software on home computers. We could no longer ignore this use. In many markets, home computers accounted for 30 to 40% of personal computer sales. The addition of these PCs into the analysis is why our 1993 piracy estimates were recently revised upward from \$7.45 billion to the current \$9.96 billion estimate."

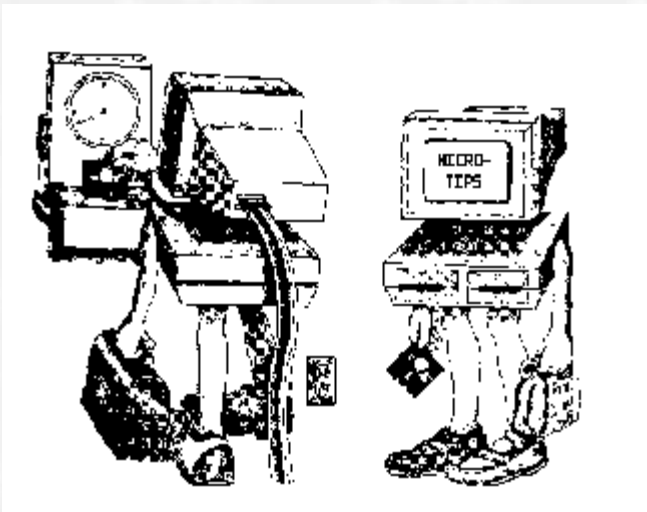


[Previous Article](#)

[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu



Software Piracy

This is a heavily edited version of an article that appeared in the University of British Columbia University Computing Services newsletter Campus Computing (January 1992, Vol. 7, No. 1). The original authors are Wendy Alexander (wendy_alexznder@mtsa.ubc.ca), Teresa Tenisci (teresa_tenisci@mtsa.ubc.ca) University Computing Services, the [University of British Columbia](#). A previous version of this article appeared in the February 1992 issue of *Benchmarks* (Vol. 13, No. 2).

The University of Oregon Continuation Center settled a copyright lawsuit with the [Software Publishers Association](#) to pay \$130,000 as well as organize and host a national conference on copyright law and software use. This was the first software copyright suit brought against a higher education institution. The federal suit was filed against the school in February 1990 on behalf of several software vendors, including [Lotus Development Corp.](#), [Microsoft Corp.](#) and [WordPerfect Corp.](#) The suit alleged that the center employees made unauthorized copies of the software companies program and training manuals.

Ledger, Association of College and University Auditors, Nov. 1991

When we speak of pirates in today s world, two different visions come to mind. The first is of a latter-day swashbuckling ruffian who captured cargo ships and stole the riches and wealth aboard for himself. The second is of a person who copies software from a source to their own PC, without purchasing it from a legal vendor. We may see both as underdogs, fighting the injustice of the system, while remaining worthy at heart, and therefore somehow admirable. No wonder software piracy is not viewed as a crime by most people.

In fact, software piracy is a crime. It is theft.

When a software package is purchased from a legal vendor, a contract exists between the vendor and the purchaser. This contract, called a license, can be found in various places: in the instruction manuals, other documentation, or on the disk itself. Most people believe that once they have purchased software, they own it. This is not quite true. In fact, what has been purchased is the license which allows the purchaser to use the product. The software company still owns the software. This lack of understanding often leads to breaches of the contract through software piracy, and in many cases the culprits are not even aware of the illegalities of their actions. Sometimes, just breaking the

seal of a disk package constitutes a legal and binding acceptance of the license s conditions.

Don t make UNT the target of the next search warrant. The embarrassment that would be caused by a lawsuit would be damaging to the reputation of the University, and the fines can be very expensive. Don t be fooled into thinking that only the University will be liable and have to pay. Depending on policies in place within your department, you too, might be liable.

Some Common Scenarios

What follows are some common situations that will test your knowledge of what is legal and what is not when it comes to software duplication.

- **Situation #1:** A software program has been purchased by an office for one of its employees. Other employees in the same office hear of the program and discover that it would be a great help to them in their work. Can legal copies be made?

Answer: No, legal copies cannot be made. Many people make this mistake, believing that as long as the program is for company business, the use of it within the workplace is legal. Most license agreements require that each machine or workstation that uses the program must have a purchased copy of that program.

- **Situation #2:** A computer which belonged to the employee you are replacing is now yours. All sorts of wonderful programs are on it and you assume they are legal copies. If you are audited and are found to have illegal software on your machine, are you responsible?

Answer: You may be responsible, depending on policies within your department. Just because somebody else put the software on the machine doesn t mean you are blameless. Essentially, you turned a blind eye and benefited from the existence of the software on the machine. Ways to determine whether or not your software is legal are: check to see if official documentation exists for your machine; check to see if there are any official diskettes for the program; check for official templates on your computer keyboard. If none of these three exists, be prepared to find out that the software is illegal. You may want to speak with the person in your department who keeps track of purchasing software for more information on the programs installed on your machine.

- **Situation #3:** The office operates on a network. Since one person has a legal copy of a software program, and has installed it on the network, everyone is allowed to use it. True or False?

Answer: Either answer may be correct, depending on what the software license says. Some licenses are strict and insist that every person who uses a program, whether it be on a network or not, must purchase the program. Some software companies sell site licenses, and these allow everyone on the network to use the program without purchasing copies for each individual who will use it.

- **Situation #4:** An update for your spreadsheet program arrives. Your co-worker has been asking you for a copy of the program, but you know that it is illegal so you refused. But now that the new version has arrived, and you have no need for the old version, can you give it to your co-worker?

Answer: No. Updates are defined as enhancements to the original package that you purchased. Once the package has been updated, the old package should be destroyed or used solely as a backup.



Situation #5: You have a big presentation to give tomorrow and, as five o clock rolls around, you realize that you have to be home to baby-sit your children. Once the kids are settled in bed, can you use the software from the office on your home machine?

Answer: Maybe. Again, it depends on what the software license says. Some licenses say that software can be used both at home and at the office. Some say that the program can be used on several machines, provided that no two are running at the same time. Some programs are very restrictive, and say that the program can only be used on one machine. If you don t have access to the license, or if you find it ambiguous or unclear, make sure you check with someone such as a technical support person, about the details before you copy anything.

What to Do?

If you find yourself in a quandry over software usage, someone should be able to help you. As a first step, contact Support Services in the Computing Center [ISB 119, (817) 565- 2324, helpdesk@unt.edu], and see if someone there can answer your question.

The Software Publishers Association (SPA) operates a toll-free hotline through which you can access information about how to order an anti-piracy video, or a self-audit kit, or just get some anti-piracy information. The number is: **1-800-388-7478**. They also have a brand new WWW site at <http://www.spa.org>

Another organization, the Business Software Alliance (BSA), also has a toll-free hotline: **1- 800-688-BSA1 (2721)**. FAX:(202)737-7063.

[Previous Article](#)   [Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Copyrights in Cyberspace

By Steve Elias Copyright (c) 1994 Nolo Press, reprinted with permission.

This article originally appeared in the Summer 1994 issue of the [Nolo News](#).

While browsing on an electronic bulletin board, you come across an interesting article on dog training. Thinking it might be of interest to the members of your dog owners club, you download it, print it out and reprint it in the next issue of your clubs newsletter.

Congratulations youve probably just violated federal law.

Dont worry, you wont be hauled off to the federal pen. The law you ran afoul of is copyright law, which gives authors, composers and others who create works of expression certain rights over their creations.

You would probably think about copyright rules if you wanted to republish a chapter of a book, a play or a song you liked. But theyre easy to overlook when youre dealing with electronic media. These bits of information fly around so rapidly and can be reproduced so easily that its hard to remember that someone out there probably owns the right to determine when and how copies are made and used.

All works of expression have at least one thing in common: they are protected by copyright as soon as they are created and fixed in a tangible medium. For the most part, once an expression is entered into a computer in a form that can be read on screen or routed to a printer, it is considered fixed in a tangible medium, even if it is never printed out or saved to a disk. A copyright notice that little (C) followed by the year and the authors name is not required, but is recommended to remind people that the author claims a copyright.

The author of the expression owns the copyright, unless there has been a formal written transfer of that ownership or the expression is created as a work for hire or paid for by an employer. So a person who enters an expression into a computer for other people to see usually owns the copyright on that expression.

What does owning a copyright on an expression mean? Simply, that no one else can copy, distribute, display or adapt that expression without the copyright owners consent. This consent may be given for free, for a fee or on the condition that an appropriate attribution be given. It is always a good idea, if you send material into cyberspace, to explicitly state the conditions for its use and reproduction. As a starting point, therefore, you can assume that you control the right to use any expressions that you author and put online. The important corollary is that any expressions you find online are probably controlled by someone else. and shouldnt be used without permission.

How Copyright Works

Copyright protects expression, not ideas or facts. For instance, information in a telephone book or a weather summary can be freely used. On the other hand, the expression used in an essay on telephones or a creative explanation of weather systems is protected by copyright even though the underlying data and ideas arent.

Copyright law doesnt mean that you can never quote something interesting that you find online. The fair use rule allows you to use a small portion of an expression to comment on it or for an educational purpose. But if you want to use the expression for commercial gain, the fair use

exception probably won't apply unless the portion you use is extremely small in relation to the entire expression.

It's extremely difficult to apply the fair use rule to new forms of expression such as the discussions that take place in cyberspace for example, on Internet newsgroups or the conferences on online services such as America Online and CompuServe. A hundred people may each contribute a few lines to a discussion. If you want to use a big chunk of the conversation, must you get every contributor's permission? Theoretically, yes, because each contributor owns copyright in his or her words. However, since none of the contributions has any significant commercial value by itself, it's hard to see where the copyright owners would be harmed if the entire conversation were used without their individual permissions. Nevertheless, people whose words are used without their permission may be angry about it. It is always better to ask.

One last thing. Copyright is not the only law to be concerned about when launching words onto the information highway. You should also avoid invading a person's privacy or falsely accusing someone of committing an immoral or illegal act.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Software Site Licenses at UNT

By Chris Strauss, Support Services Coordinator (strauss@unt.edu)

The University of North Texas Computing Center makes a wide variety of computer software available to the Denton campus through its networks, host computers, and software site licenses. This article will focus on the software we provide under our various license programs for faculty, staff, and student use on UNT microcomputers.

While some of these programs are centrally funded and available to campus users at no cost, most are charged back to the departments at nominal prices. The primary benefit of these programs to the University is in the cost savings they achieve. Each licensing program provides current commercial software at bulk educational prices significantly lower than the retail prices for individual packages.

The Computing Center manages these licensing programs centrally, but software installation is done at the distributed support level. Briefly, the process works something like this:

We receive the software on CD-ROM or diskette directly from the vendor, and load it to our software distribution server. That server is divided into functional and vendor specific areas, each managed by the appropriate support person in the Computing Center.

As new products become available or upgraded versions arrive, this group sends electronic mail notifications to all distributed software managers. Each network manager, General Access Lab manager, or departmental software manager (often the same person), is then responsible for installing or upgrading the software on their network server for general use.

Distributed support personnel are also responsible for making any diskettes to install stand-alone machines, or for making local installations on networked machines. The procedures for obtaining software in each college, department, or administrative office vary widely; ask your network manager for details.

Available Products

The products available range from highly specialized statistical analysis tools to general purpose commercial word processing software. I will focus on the products intended for microcomputer usage, running under the DOS, Macintosh, OS/2, and Windows environments.

SAS and SPSS:

UNT provides two high-powered [statistical analysis tools, SAS and SPSS](#), from central funding. The licensing schemes are different, and there are some restrictions on who may obtain copies of which products.

- **SAS for DOS** is available to all faculty, staff, and students who have a need for it.
- **SAS for OS/2 and for Windows** is available to faculty and staff, and only to students who are currently enrolled in associated course work. Distribution to students is normally through the instructor, not the Computing Center.
- **SPSS** is available to faculty and staff only, on the following platforms: DOS, Macintosh, and Windows. We cannot distribute SPSS to students, as SPSS Inc. markets a low-priced collegiate package through the University bookstore.

Under both of these licensing agreements, UNT provided copies of SAS and SPSS may be used on privately owned microcomputers.

SAS and SPSS are available to both Denton campus and Health Science Center users. The point of contact for statistical tool and research consulting is Panu Sittiwong at 565-2140.

WordPerfect Products:

[WordPerfect](#) products have been available to UNT faculty and staff offices through educational licensing for a number of years. They are also available to students for use in labs.

Initially this was through an 8-for-1 educational pricing scheme, with licenses and disks sold directly by the Computing Center. During fiscal year 1994 we operated a centrally funded WordPerfect Customer Advantage Program, using a central distribution server and decentralized installation by software managers.

This program shifted back to reimbursable funding in fiscal 1995. Software managers install licenses on their servers and stand-alone machines, report quarterly numbers, and reimburse the Computing Center for each new or upgrade license. Products currently available under this program are WordPerfect for DOS, Macintosh, and Windows; Presentations for DOS and Windows; and Works for DOS and Macintosh.

The newest releases are WordPerfect 3.1 for Macintosh, WordPerfect 6.1 for Windows, and Presentations 3.0 for Windows. The new Windows versions sport a tremendous number of new features and completely re-designed interfaces.

Training on WordPerfect products is available through Academic Computing Short Courses (see page 23) and UNT Human Resources Computer Classes. The point of contact for WordPerfect products is Sandy Burke at 565-3856.

Macintosh System 7.5:

The Computing Center has a direct licensing agreement with [Apple Computer, Inc.](#) for System 7.5, the latest version of the Macintosh operating system. Our license allows us to upgrade any UNT-owned (Denton campus) Macintosh to System 7.5. This agreement is centrally funded. The point of contact for Apple products is Sean McMains at 565-2039.

Software through DIR:

Beginning last Fall, the Computing Center arranged to provide additional lines of software through the State of [Texas Department of Information Resources \(DIR\)](#). At this time we are providing [Claris](#), [IBM](#), and [Microsoft](#) applications products under this arrangement. They are available for use on UNT microcomputers by faculty and staff, and to students through the General Access Labs.

We obtain licenses for these products under contracts negotiated by DIR for all State educational organizations, again at very advantageous pricing. The first of these is for Claris products, primarily for Macintosh.

- **ClarisWorks:** We currently make available ClarisWorks 3.0 for Macintosh and Windows, and ClarisDraw 1.0 for Macintosh. Our Macintosh users rate ClarisWorks as the best works product by far of all those we have available.

The point of contact for Claris products is Sean McMains at 565-2039. Sean is also a point of contact for any of the Macintosh products from WordPerfect or Microsoft.



- **OS/2:** The only products of note that we obtain through DIR s IBM contract are the various flavors of OS/2. Since we do not currently support OS/2 as a desktop environment, but more as a server OS, distribution is limited primarily to technical support staff.

The dissemination of software is normally handled at the distributed support level since it must be locally installed from CD-ROM or diskette. Since OS/2 cannot be installed over the network, it is not mounted on our distribution server. Essentially, the Computing Center provides the vehicle for inexpensive licensing of additional copies for departments who have already obtained diskettes or CD-ROM copies of OS/2.

The point of contact for OS/2 is Mark Adamson at 565-4313.

- **Microsoft Products:** Under the DIR contract with Microsoft, virtually every product that Microsoft makes is available to campus users. The greatest interest has been in applications and development tools. The most interesting feature of the new office suite of applications is that they are now virtually identical across the Windows and Macintosh platforms.

The standard office applications, **Word, Excel, and PowerPoint**, share the same user interfaces and exchange files without translation.

For database software, the xBase compatible **FoxPro** is available on both platforms, but the best-seller by far for database work is Access for Windows.

In development tools, Visual Basic and Visual C++ are available in a number of configurations for DOS, Windows, and Windows NT.

For those needing a quick and dirty Windows desktop publishing program (and don t need the indexing and long-document capabilities of PageMaker, Ventura, or Quark), MS Publisher is available.

Most of the Microsoft products are loaded on the software distribution server, and are available through distributed support personnel. With the exceptions noted below, all Microsoft software is reimbursed to the Computing Center with the quarterly reports by software managers.

UNT and Microsoft:

In addition to the DIR contract with Microsoft, we have our own direct agreement with Microsoft under their Select program for operating systems. This provides us with licensing for MS-DOS, Windows, Windows for Workgroups, and Windows NT at prices generally below those of the DIR contract.

Some DOS upgrades (from versions prior to 5.0) and most MS-Windows installations are currently funded centrally by the Computing Center. Software managers have the details. The other Windows products are available but must be reimbursed in the same manner as all other Microsoft products.

Training on MS-DOS and Windows is available through Academic Computing Short Courses and UNT Human Resources Computer Classes. The point of contact for Operating Systems is Mark Adamson at 565-4313.

Specialized Site Licenses:

Several small, specialized site licenses are also available on campus. The most well publicized is F-

PROT Professional, our primary defense against IBM-PC viruses.

- **F-PROT:** We centrally fund this license from a commercial source for all UNT Denton campus associated persons, for both UNT and student-owned machines. It is available for download to diskette by faculty, staff, and students at the Computing Center helpdesk, and in the General Access Labs. It is also mounted on the software distribution server, along with the NetWare server version NET-PROT, for software managers to install on faculty and staff systems. This is a commercial variant of the program, and is different from the freeware version of F-PROT available on our FTP server and elsewhere on the Internet.

The freeware version is for individual use only, and is NOT authorized for use on UNT computers. The point of contact for F-PROT is Eriq Neale at 565-4808.

- **ProCommPlus:** Another well-know product is ProComm Plus for DOS, version 1.1b, a solid but dated communications program. UNT purchased a site license for this product years ago that enables us to give copies to any UNT affiliated person (valid UNT ID card holder), free of charge. Attempts to move to newer DOS or Windows versions have been stopped by prohibitive pricing by the vendor. ProComm is available for download in the Computing Center helpdesk. A UNT ID and signature are required.
- **eXceed:** A recent addition to Computing Center managed software is Hummingbird eXceed, an X-Window server for MS-Windows. This product provides X-Windows terminal emulation on a machine running Microsoft Window. A fairly robust hardware platform is required. To date, it has only been used by the Institute for Applied Sciences. The Computing Center has just taken over the site license management in anticipation of increased on-campus demand for a PC-based X-Window server. Installation is fairly complicated, and a new license number must be purchased before the product can be installed.

The point of contact for eXceed will be Dianna Laakso or Chris Strauss at 565-2324.

- **Trumpet Windows Socket:** Even less well publicized is our license for an essential element of Internet access via Microsoft Windows. This is the Trumpet Windows Socket for TCP/IP connectivity. We have a license for all UNT associated machines. The software is loaded on the software distribution server for software managers to distribute.

The point of contact for Trumpet Windows Socket is Doug Bateman at 565-2568.

- **Zoom-Text Plus:** Another little-known license is ZoomText Plus, a DOS product that magnifies screen characters. The user may zoom in by line, window, or full screen. Magnification is from 2X to 16X. The software is especially useful for individuals with certain visual impairments. ZoomText is a Terminate-and-Stay-Resident program. ZTWin, a program included with ZoomText, is compatible with Windows. It is available through software managers, from the software distribution server, at no cost.

The site license stipulates that the software may be used on any computer at UNT that is OWNED by UNT. The purchase of UNT s site license was made possible by financial donations from the following UNT departments: School of Community Service Adaptive Lab, Center for Rehabilitation Studies, Office of Disability Accommodation, Equal Opportunity Office, Computing Center, Academic Computing Services General Access Lab, College of Business Administration General Access Lab, College of Education General Access Lab.

[Previous Article](#)



[Next Article](#)



If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

WordPerfect Site License is Changing

By Bill Buntain, Director of Network & Microcomputer Services (buntain@unt.edu)

[WordPerfect Corp.](#) was recently purchased by [Novell](#), a networking company. Novell has been restructuring the licensing agreements for all WordPerfect products, which is likely to be very beneficial for UNT.

Novells new program is a site license based on the combined population of faculty, staff, and students. As a site license, there is no installation tracking requirement, which should result in significantly reduced administrative costs both in the colleges and the departments and in the Computing Center.

The basic program provides unlimited on-campus use by faculty, staff, and students and the right for faculty and staff to have WordPerfect applications (WordPerfect, Presentations, GroupWise Remote, QuatroPro, etc.) installed on their home computers while they are working for the University. We are currently evaluating this program against other licensing programs we are participating in.

An optional extension to the program allows students to install the applications software on their home computers while they are associated with the University. We will not buy into this portion of the program until we have identified funding and determined a distribution mechanism for the software. We will update you on developments with this program as they occur.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

The Rules of the Internet

By Dr. Philip Baczewski, Assistant Director of Academic Computing (baczewski@unt.edu) This is an edited version of a Network Connection article that appeared in the June 1992 issue of *Benchmarks* (Vol. 13, No. 5, pg. 12).

Many of us have come to rely on Wide Area Networks to support various aspects of our scholarship. The use of BITNET and NSFNET, i.e. the Internet, are now taken for granted by many at colleges and universities. Periodically, however, it is helpful to review the usage guidelines of these networks so that these resources that we take so for granted are not intentionally or unintentionally subjected to abuses of the privilege of access. At UNT it is also University policy that those accessing Wide Area Networks shall abide by the policies of those networks. (*University Of North Texas Policy Manual, Classification 3.6, Section 4.8.d.*) It is very important, then, that if you use the Internet, you read and maintain a handy copy of their policies.

We last published the CREN usage guidelines in the June 1992 issue of *Benchmarks*. They are repeated below to familiarize you with them or refresh your memory of them. Also included below are the NSFNET usage guidelines. Although UNT is no longer a member of CREN, we still access BITNET sites on the Internet. Similarly, although NSFNET may be officially dead (see article on page 15), its guidelines are still considered to be good rules of the road for the Information Superhighway.

Corporation for Research and Educational Networking Acceptable Use Policy

The following is available from LISTSERV@BITNIC as the file CREN NET_USE. This file is maintained by the CREN Information Center and was last updated October 3, 1990. For more information contact the Corporation for Research and Educational Networking, Suite 600, 1112 Sixteenth Street, NW, Washington, DC 20036 Phone: (202) 872-4200.

CREN networks are for the use of persons legitimately affiliated with CREN Member or Affiliate organizations, to facilitate the exchange of information consistent with the academic, educational and research purposes of its members. All individuals affiliated with CREN Member or Affiliate organizations are responsible for seeing that their communities are aware of these guidelines, and that the guidelines are followed, both in letter and in spirit.

CREN networks are, at the discretion of the institutions involved, open to use by students enrolled at participating CREN Member or Affiliate educational institutions. Use of CREN networks shall:

- Be consistent with the purposes and goals of the networks.
- Avoid interfering with the work of other users of the networks.
- Avoid disrupting the network host systems (nodes).
- Avoid disrupting network services.

Acceptable Use of the Networks

The following examples may help users of the networks apply these principles in particular cases.

- Messages that are likely to result in the loss of recipients work or systems are prohibited.
- CREN networks are not to be used for commercial purposes, such as marketing, reselling bandwidth, or business transactions between commercial organizations.
- Advertising is forbidden. Discussion of a product's relative advantages and disadvantages by

users of the product is encouraged. Vendors may respond to questions about their products as long as the responses are not in the nature of advertising.

- CREN networks may be used for the provision of services which support the needs and purposes of the CREN networks, and for which a charge is made, if the network is an optional mechanism for provision of this service for which no additional charge is made, and as long as the use of the service is consistent with the bandwidth of the network and the forwarding hosts. Providers of such information may be non-profit or for-profit organizations.
- Any communication which violates applicable laws and regulations is not allowed. *In particular, messages and data sent to destinations outside the U.S. must satisfy the Department of Commerce regulations (either be within the GTDA guidelines for information which may be generally transmitted or have the required license).*

Users of CREN networks are expected to be responsible in their use:

- Chain letters, broadcasting messages to lists or individuals, and other types of use which would cause congestion of the networks or otherwise interfere with the work of others are not allowed.
- BITNET files will be limited to sizes determined and reviewed periodically. (Note: The current limit is 300,000 bytes per file transmitted.)

CREN Members or Affiliates are expected to take reasonable measures (given the constraints of technology and management) to ensure that traffic using gateways between CREN networks and other networks conforms to these guidelines.

Final authority for CREN acceptable use policies lies with the CREN Board. It is the responsibility of member representatives to contact the CREN Board, in writing, regarding questions of interpretation. Until such issues are resolved, questionable use should be considered not acceptable.

The NSFNET Backbone Services Acceptable Use Policy³

[This NSFNET Acceptable Use Policy is also available via anonymous ftp to nis.nsf.net. Retrieve the file nsfnet.txt in the directory acceptable.use policies.](#)

GENERAL PRINCIPLE:

1. NSFNET Backbone services are provided to support open research and education in and among U.S. research and instructional institutions, plus research arms of for-profit firms when engaged in open scholarly communication and research. Use for other purposes is not acceptable.

SPECIFICALLY ACCEPTABLE USES:

1. Communication with foreign researchers and educators in connection with research or instruction, as long as any network that the foreign user employs for such communication provides reciprocal access to U.S. researchers and educators.
2. Communication and exchange for professional development, to maintain currency, or to debate issues in a field or subfield of knowledge.
3. Use for disciplinary-society, university-association, government-advisory, or standards activities related to the user's research and instructional activities.
4. Use in applying for or administering grants or contracts for research or instruction, but not for other fundraising or public relations activities.
5. Any other administrative communications or activities in direct support of research and instruction.

6. Announcements of new products or services for use in research or instruction, but no advertising of any kind.
7. Any traffic originating from a network of another member agency of the Federal Networking Council if the traffic meets the acceptable use policy of that agency.
8. Communication incidental to otherwise acceptable use, except for illegal or specifically unacceptable use.

UNACCEPTABLE USES:

1. Use for for-profit activities (consulting for pay, sales or administration of campus stores, sale of tickets to sports events, and so on) or use by for-profit institutions unless covered by the General Principle or as a specifically acceptable use.
2. Extensive use for private or personal business.

This statement applies to use of the NSFNET Backbone only. NSF expects that connecting networks will formulate their own use policies. The NSF Division of Networking and Communications Research and Infrastructure will resolve any questions about this policy or its interpretation.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

The End of the Original Internet

By [Claudia Lynch](#), Benchmarks Editor (lynch@unt.edu)

The last components of the original NSFNet backbone will be shut down on April 30, 1995. This was the original Internet. Interestingly, ANS, one of the NSFNet service providers, has been purchased by [America Online](#).

A the note from Elise Gerich of Merit Computer Services, officially notifying the sites on the backbone of the impending cessation of service states:

It is a sad note that at midnight in each respective time zone, the service that Merit, ANS, IBM, and MCI have collaborated to provide over the last seven years will cease to exist. It is also with pleasure that we complete this grand experiment on such a successful note. I think that this partnership has succeeded beyond any of our dreams. It has been fun!

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

News From the CWIS/Gopher Hole



By Doug Bateman, CWIS Coordinator (dbateman@unt.edu) This column covers features and resources available through the University's Gopher Campus Wide Information System (CWIS). Gopher is available on various UNT host computers including the VAX, Sol, and Jove. It is also available in the General Access Labs and on various Novell file servers around campus.

Law Stuff

In view of the theme of this issue, Computing and the Law, I could not resist sharing the image above with you since it fairly accurately reflects my personal opinion of the judicial goings-on of the past several months. And now with that out of the way, it's on to more serious stuff.

As it so happened, the theme of this issue of Benchmarks coincides with articles in two of the dozen or so magazines I subscribe to. For anyone with a serious interest in the Internet, I can heartily recommend both of these publications, although I would caution you to browse through an issue or two before you decide to subscribe. Each will no doubt appeal to those with very different mindsets.

First, there is Internet World, published monthly by Mecklermedia Corp. It is very readable and is loaded with pointers to Internet sites. Each issue features tutorials, how-to articles, columns geared to every level of Net Surfer, and several articles centered on a monthly theme. This month (March 1995) the theme is Multimedia on the Net with articles discussing VR (virtual reality), video conferencing, etc. Highly recommended reading and readily available... even UNT's bookstore carries it!

The second one is a little... no, it's a lot off the wall. [Wired](#) magazine is a reading experience you will either love or hate, and even that will vary from issue to issue (and page to page come to think of it). The graphic design will either dazzle you or leave you stunned. Still, it provides a serious perspective on the cyberpunk culture as well as addressing the serious side of the Internet. Also highly recommended, but with a caveat...don't blame me if you can't stand it.

As I promised you in the last issue, I will be providing you with pointers to various Internet sites, primarily in keeping with the legal theme of this Benchmarks. However, never let it be said that I ever passed up an opportunity to both educate the populace, and preach my own brand of Net-evangelism. So take heed before venturing further...

While involved in some heavy web-surfing in preparation for this article, I happened upon one of those gems of the Internet a very nicely developed site that contains a rich cache of pointers to a variety of subject-related sites. This one is out of the [University of Indiana](#) (go Hoosiers!) Law School.

Actually, I had a rather nefarious purpose in mind for causing the Benchmarks editor so much anguish by including my own graphics in my article this month. Compare the previous screen shot (of [NetScape](#)) with the one below it on page 17 (captured from a Microsoft Windows-based telnet session to my Sol account).

I wonder if anyone could identify the latter image as a screen shot of the Lynx web-browser pointing to the same site as the NetScape browser was in the former image?

I have one other set of screen shots to present to you before I start making my point more clearly. Screen 2: Netscape on page 18 provides a view of a Web site that should be near and dear to all of us. Its counterpart as it appears in Lynx is shown under it.

If you haven't guessed my point yet it is this: *the same information is available to you whether you are using a graphical web browser or a character-based one!* (And you don't have Gov. Bush's face staring at you.)

There is certainly no denying that the graphical interface is the more pleasant one to look at. I happen to be a very visually-oriented person, so I enjoy the graphical web-browsers as much as anyone when I am in a browsing mood and not interested in finding some specific information.

For those of you who have a serious interest in the content of the information that is available via the Internet, as opposed to those who are interested in the appearance of that information, I recommend that you take a closer look at the Lynx web-browser that is available on both Jove and Sol (the Computing Center's UNIX host machines.) It's fast; has just as many features as Mosaic, Netscape, et al (excluding the display of graphics); and it's readily accessible to anyone with an account via a dialup connection. As always, I am available to answer questions and help with problems no matter what your preferred web-browser may be.

Legal Pointers

You can find a list of pointers on UNT's webserver at URL <http://www.unt.edu/scottslit/033.html> and in addition to those sites that you will find referenced in the WWW Virtual Law Library highlighted previously, here is a sampling of a variety of subject-related resources:

Mailing Lists

- COMP-ACADEMIC-FREEDOM-TALK
Computers and Academic Freedom discussion list
listserv@eff.org
subscribe comp-academic-freedom-talk *firstname lastname*
- LAWSRC-L
Internet Law Resources List
listserv@fatty.law.cornell.edu
subscribe lawsrc-l *firstname lastname*

USENET Newsgroups

- alt.society.civil-liberties
- comp.academic-freedom
- misc.legal

FTP

- Supreme Court Opinions: <ftp.cwru.edu/hermes>
- Computer and Electronic Law Information: <sulaw.law.su.oz.au/pub/law>

Gopher

- [Electronic Frontier Foundation](http://eff.org): eff.org
- [Cornell University Law Library](http://fatty.law.cornell.edu): fatty.law.cornell.edu
- [US Department of Justice](http://gopher.usdoj.gov): gopher.usdoj.gov
- [Case Western Reserve University](http://holmes.law.cwru.edu) Law School: holmes.law.cwru.edu
- Miscellaneous: wiretap.spies.com (*select Articles, Legal and Criminal then Waco Warrant to see the original search warrant for the Branch Davidian compound in Waco, Texas*)

World Wide Web

- Supreme Court decisions <http://www.law.cornell.edu/supct/>
- University of Indiana Law School - Journals <http://www.law.indiana.edu/>

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Sex and Violence in Cyberspace

[Edupage](#) (2/12/95), Originally appeared in the New York Times (2/1/95).

A [University of Michigan](#) student is in jail, charged with the federal crime of transporting threatening material across state lines. He had posted to the Usenet group alt.sex.stories a short story using the real name of one of his female classmates and describing the torture of a woman with a hot curling iron and her mutilation and sodomization while she is gagged to a chair. The student's arrest has been criticized by such privacy and civil liberties groups as the ACLU and EPIC, which argue that the authorities have encroached on the man's freedom of speech. The executive director of the Electronic Frontier Foundation says: This young man posted it into a Usenet group that had other similar postings. They accepted it as a type of writing that was acceptable under their community standards.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

E-mail Violates Sunshine Laws?

[EduPage](#) (2/16/95), originally appeared in the Wall Street Journal (2/16/95).

Government officials exchanging E-mail with each other may be violating some state's open meeting laws. Most agencies have not thought through E-mail in the light of public access. With E-mail, it's much easier for officials to unthinkingly toss out ideas and debate public business in private, says the director of [University of Florida's Brechner Center for Freedom of Information](#). Florida law prohibits even two officials conferring privately on a policy matter. One California city council member is careful never to send any of her messages to more than three colleagues at once, because to do so would constitute a meeting of a majority of the nine council members.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

A Web of Spies

[Edupage](#) (2/14/95), originally appeared in Investor's Business Daily (2/14/95)

The CIA has maintained an informational home page since last year, but now it's hoping to recruit engineers, economists and computer scientists via its server at <http://www.ic.gov>. The Agency warns would-be crackers that its site will be audited regularly, and will include alarms to notify officials of any suspicious activity. The new server will be completely separate from other CIA computers.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu



The Network Connection

By Dr. Philip Baczewski, Assistant Director, Academic Computing Services (baczewski@unt.edu)

This column is a continuing feature of *Benchmarks* intended to present news and information on various aspects of wide area networks.

"Ad" Nauseam

In recent months there has been quite a bit of attention paid to the topic of advertising on the Internet and it can be quite confusing to hear the chatter from various sides of the argument if you are not already familiar with all the issues involved in this subject. After all, the press seems to be falling over itself with Information Superhighway stories implying that within six months we will all be doing everything but our laundry on the Internet. With commerce coming to the Internet aren't advertisements just an expected part of the picture an annoyance or a service, depending on your point of view? The answer to that question is it depends... it depends on where the advertising occurs and how it is accomplished.

The Network of Networks

We are often tempted to treat the Internet as one huge object to be accessed or manipulated, however, if it were, we'd just call it The Network. The Internet is a network of networks with common practices (protocols) supporting the inter-network transfer of electronic information. The various component networks of the Internet may have their own standards and practices as to the use of their networks. BITNET, for example, while not officially part of the Internet, is still responsible for much of the electronic mail traffic that is transmitted over the Internet. Many network mailing lists are still maintained on BITNET hosts, but with the advent of mail gateways on commercial on-line services and at business Internet sites, BITNET mailing list subscribers are no longer just BITNET users (and haven't been for quite some time). BITNET itself, however, remains a network devoted to the exchange of information in support of research and instruction.

World Wide Web (WWW) services are being provided by more and more companies on the Internet. Companies have found WWW to be an effective forum for providing information on their products and organization. Normal people call this advertising, but since companies employ lots of people with MBA degrees, they call it marketing. Advertising in itself, then, is not intrinsically bad, especially if you desire the information and can retrieve only that in which you are interested. Unsolicited information which attempts to sway you to buy a particular company's product or service can be quite unwelcome whether it arrives as an electronic mail message, as an item in your postal mailbox (we call this junk mail), or as a phone call which interrupts that hot meal you've just put on the table. In relation to the Internet, advertising may be subject to the usage guidelines of a component network some will ban it and some will allow it. Since the Internet is no longer exclusively a government-supported network for institutions of research and higher education, advertising in some forums may be quite copacetic.

Knowing the Nets

In spite of the sensitivity to advertising on some mailing lists, announcements and discussions of new products are common on many mailing lists and, in fact, many mailing lists are formed for just that purpose (even BITNET mailing lists). If you review the BITNET and NSFNet acceptable use

policies (see page 14), you will find that both prohibit commercial or for profit use of their networks, including conducting commerce via those networks. Both specifically prohibit advertising, but BITNET does permit discussion of a product s relative advantages and disadvantages and allows venders to respond to questions about their products. NSFNet also lists announcements of new products or services for use in research or instruction as an acceptable use.

Since most Internet traffic is no longer carried by NSFNet, policy issues in that regard may be moot (see page 15). Non-commercial product announcements seem to be acceptable within the bounds of applicable network policies. There is a large difference between announcing that a product is available and doing a widely- distributed mailing that sells a commercial service or product. The former is standard practice, and the latter causes a great deal of consternation among mailing list owners. Selling ad space to run on BITNET mailing lists would definitely be a violation of BITNET policies, since it would be, in effect, reselling network bandwidth.

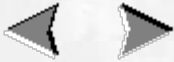
Ban the Spam

Recently there has been a rash of commercial messages broadcast to multiple BITNET LISTSERV mailing lists. This practice is known in LISTSERV circles as spamming, and has caused quite a bit of uproar among list managers and members (one list owner even wrote his congressman to suggest legislation against spamming). In more than one case, backlash against the messages has resulted in the quick loss of the perpetrator s privileges on the commercial service from which the messages originated. Spamming is the worst type of abuse of mailing lists. It not only sends unsolicited messages to those who don t want them (multiple copies if several of your lists are spammed), but it also adds an additional burden to mailing list traffic.

About a year ago, two lawyers broadcast a message to many mailing lists, causing enough fury to even merit note from the print media. After much retribution and some repercussions, they went on to write a book about advertising on the Internet. This seems the equivalent of those get rich quick ads that offer the secret to success for only five dollars, and it turn out the secret is to run ads which entice people to send you five dollars.

Thankfully, most on the Internet are sensitive to its appropriate use. If you have doubts about the propriety of a posting it is relatively easy to send a message to the list moderator or owner to ask if it is appropriate to the discussion (the list owner is usually identified in the welcome message you receive when you first subscribe to a mailing list). Matching the information to the forum will help achieve appropriate and efficient use of the Internet.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

List of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list...

Network Etiquette

netiquette via netiquette-request@albion.com

Owner: Seth Ross (seth@albion.com)

Netiquette: The Mailing List is devoted to network etiquette, the informal set of rules, civilities, and social graces that have evolved in cyberspace, the do's and don'ts of online behavior. What are the rules? How have they evolved? How can responsible net.citizens avoid breaches of Netiquette? How should we respond to the breaches of others? Is flaming an art and if so, how can it be mastered? What's being said about Netiquette on the net and in the media?

This unmoderated list is open to the networking public. It is sponsored by Albion Books, publisher of Netiquette by Virginia Shea.

To join Netiquette: The Mailing List, send E-mail to netiquette-request@albion.com with the following command in the subject field: subscribe Firstname Lastname

As a starting point, subscribers may wish to review the Core Rules of Netiquette document, a brief excerpt from the Netiquette book. To retrieve the document, send E-mail to netiquette-request@albion.com with the command archive send core in the subject field, like so:
TO: netiquette-request@albion.com

SUBJECT: archive send core

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Staff Activities

Publications and Presentations Dr. Panu Sittiwong, Research and Statistical Support Manager for ACS, and Dr. C. Neal Tate, Political Science Regents Professor presented a paper titled Describing and Explaining the Changing Caseload of the Canadian Supreme Court,1875-1990 at the Annual Meeting of the Southwest Association of Canadian Study February 23-25, 1995. The meeting was held in Denton this year.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Viruses: If At First You Don t Succeed

By [Eriq Neale](#), ACS Lab Manager and Virus Protection Expert (neale@unt.edu)

From the "When it rains, it pours" department, it s time to assuage some fears and correct some misinterpretations. A little while back, there was a lot of talk about the Goodtimes virus that was supposedly spreading on [America On-Line](#). I received about a dozen copies of E-mail messages warning people not to read a mail message on AOL with the subject Goodtimes because it was actually a virus that would infect your computer and do nasty things to you. Some of these messages were written by well-meaning people who tried to give their message a look of importance. Others were quick notes of warning to potential victims.

All of them were wrong

But the dust kicked up by this panic attack is still settling, with some unsettling consequences. In the remainder of this article, I ll try to address some of the biggest issues that have resulted from this incident, and, to entice the reader to read this article to its conclusion, I ll give you the sure-fire, no-fail method for keeping your computer system virus- and problem-free forever.

E-mail, Fast-food Rats, and Sewer Alligators

Let s clear the air first: the Goodtimes virus is fiction. It does not exist, and as far as we can tell, it never did. However, in a few short weeks, it achieved Urban Legend status. This status was achieved when computer support people made their best efforts to alert clients and potential clients about this alleged virus, and what began as probably a small joke exploded into a media circus not unlike what Michelangelo stirred up in 1991.

The premise of Goodtimes was this: someone sent out E-mail on AOL that contained a virus, and when you read the message, your computer became infected. First, your potential victims are AOL customers, because the virus was activated in the AOL mail reader (or so the story goes). Second, you rule out half of the AOL customer base, either Mac or PC users, because the virus could realistically only affect one of the two computer types. So, in contrast to Michelangelo, you ve already limited the spread of the damage to several hundred thousand computers as opposed to several million.

Now let s tackle the heart of the matter. Can an E-mail message cause a mail reader to infect a computer running the mail reader with a virus? In short, no. A computer virus is executable code that replicates itself when run in the computer. So the e-mail message would have to contain a program (either Macintosh or MS-DOS) that the recipient computer would have to execute. Well, this can happen with the AOL mailer. Person A can E-mail a DOS executable to Person B on AOL by uploading the program into the mail message being sent. If the program Person A uploads is infected and Person B downloads the program and runs the program, then Person B will get infected. This same problem exists on every BBS system across the world, but we only hear of isolated incidents where an infected program is uploaded to a BBS for others to download. (We can thank proactive BBS operators for that, as the bulk of them check all uploads before making new files available.)

But this virus was to infect you when you read the e-mail. This means that the AOL client software would have to cause the computer to run a piece of computer program code contained in the E-mail message without asking the person running the client for permission. As far as we know, the AOL client, on any platform, cannot do such a thing. And, if someone had figured out how to do such a thing, I d really like to know. It is possible that, in developing the clients, AOL left some back doors

in the mailer program for testing that remain in the program today and that the E-mail message in question could somehow tap into this, but it's really, really unlikely.

Suppose we built a giant badger...

If Goodtimes did what everyone promised it would, it would actually be classified as a Trojan Horse and not as a virus. A Trojan Horse is a program or data file that purports to do one thing when it actually does another. One classic Macintosh example was the Sexy Ladies HyperCard stack. While the viewer would ogle over the images of bikini-clad models, the stack would quietly eat files off the computer's hard disk in the background. Goodtimes followed the same premise: you opened what you thought was E-mail, but instead something evil lurked inside and attacked when you opened it.

The Goodtimes scenario has brought about a renewed interest in other Trojan-related areas. One of the more interesting is a phenomenon called an ANSI bomb. On DOS systems, it is possible to reprogram function key actions at the DOS prompt through ANSI escape sequences. This is an old trick, actually, and one that many people have used to program frequently-used DOS commands into their keyboards. Unfortunately, malicious commands can be programmed into keyboards as well. It would be possible to change from repeating the last command entered to formatting the local hard disk when pressed.

Rest easy, though, for this is an uncommon thing. But one of the easiest distributions for this type of mischief is still download sites like BBSs, online services, and anonymous ftp. Recent versions of PKWare's PKZIP and PKUNZIP utilities have a feature that displays a text message when a ZIP file is uncompressed (actually, there are several programs that now offer this feature). As you may have guessed, miscreants have found ways to embed ANSI codes into these messages to have portions of the text appear in color, or to reprogram function keys and the like.

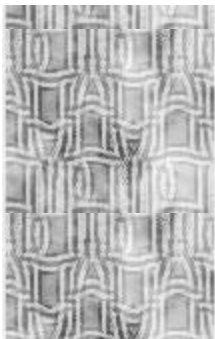
How do you protect yourself from this threat? There are a couple of ways. One is to practice caution when downloading files, and this really should be one of the 10 Computer Commandments! PKWare supposedly has utilities that will examine the embedded comments in ZIP files for trouble codes. Or, you can remove ANSI from your PC altogether. If this is not really an option for you (it's not been one for me), you can use one of several ANSI emulators that do not support function key remapping (some of these tools are available on ftp.unt.edu).

This type of thing can happen on other systems, too. Emacs can recognize and execute lisp code included in the comments of a source file as the file is being opened for editing. Some Web browsers could be configured to automatically download and execute files from Web sites. And there are probably others that this author is not aware of (please forgive the poor grammar).

42

Hopefully, you are now armed with more information about this than you really care to know and you realize that the situation is much less severe than you may have realized before. While these issues are concerns that need to be dealt with, a healthy case of paranoia can be reserved for a different situation.

I have to admit that I lied to you earlier. There is no single solution, no one fix fixes all tool that can be used to prevent computer disasters. But a good, regular backup will help prevent loss of data when a computer disaster occurs. It is inevitable that your computer will suffer some dastardly sort of problem that will cause loss of data. If you are prepared with a complete, recent backup of your system, your downtime should be kept to a minimum once you've identified and removed the problem.



[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

F-Prot Updates

The current version of F-Prot available on the UNT Denton campus is 2.16. The software can be acquired from your server manager, or from the CC2 server in the **F:\LOGIN\PUB\F-PROT** directory.

File server managers should also note that Net-Prot has also been updated to version 1.29 - 2.16 to match the signature strings used in F-Prot 2.16. We have encountered some difficulty when using Net-Prot on a server running AppMeter, and also when running on a NetWare 4.x server. All other servers running 3.X of NetWare should load Net-Prot for added virus protection.

Net-Prot can be found on the SOFTWARE volume of CC2.

There have been a couple of virus incidents reported on campus recently. The viruses that have been encountered will be detected by F-Prot, should you run across them.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Academic Computing Offers Courseware Development Service

By [Aaron Price](#), ACS Documentation Services Assistant (price@cc1.unt.edu)

Bringing technology to the classroom is becoming easier thanks to a new service being offered by Academic Computing Services. The Computing Center has begun working with other Academic departments at UNT to develop software platforms that students can use as supplementary learning tools for classes.

The designers of the programs will create interactive learning sessions consisting of information provided by the instructor of a particular class. Students can then use these programs at their own pace to learn and study the material.

Beginning last summer The Computing Center has been working with Professor Allen Jackson of the Department of Kinesiology, Health Promotion and Recreation to develop a software platform that would supplement the teaching of *PHED 1000, Scientific Principles and Practices of Health-Related Fitness*.

This project is funded by a grant Professor Jackson secured and by matching funds provided by the Computing Center. The project is targeted to be completed by August of 1995.

We want to create a computer supplement to the lecture material. We are taking material from lecture notes and creating an interactive lesson guide, Neale said. This lesson guide will cover all of Jackson's lessons.

Dr. Jackson provides an outline of the information that is to be included to project designer Jenny Jopling. She takes that information plus notes from classroom lectures and designs screen layouts that are given to Eriq Neale. Jopling uses multimedia programs such as Photoshop, Superpaint, Premiere, Corel Draw, Harvard Graphics, and others to design the pages and graphics. She plans to work with Cad and 3D-Studio for 3D computer animation on a future project.

In the next step Neale programs the screen layouts on a Macintosh using Authorware and then gives those to Joseph Hoffmann. It is Hoffmann's job to convert the Macintosh programs to IBM-PC format and make the changes and updates needed on both the Macintosh and PC platforms.

When the project is completed, students taking the class will be able to use the program in a computer lab or check out a CD-ROM disk containing the material for use on home computers. If students prefer this learning method they can use the software to actually replace those lectures.

It will also help solve the problems of overcrowded classrooms by allowing students more freedom to learn material on an individual basis.

We are focusing on the core subjects since they are typically the larger size classes. Software is more personal than a classroom with 500 people. This provides students with the benefit of a professional expert and it won't monopolize the time of teachers with large-scale classes, Dr. Philip Baczewski, Assistant Director of Academic Computing, said.

The Computing Center is also involved in developing an interactive program with the School of Rehabilitation. However, this program does not focus on a single class but on five different disabilities as an assistance tool to train counselors.

The first segment, about deafness and hearing impairment, is due to be completed by August of 1995. The following four segments are scheduled to be completed over the next two years. This program will be distributed to other institutions of higher learning and to the Texas Rehabilitation Commission field offices throughout the state.

These are our first projects and we hope they will be a springboard to show others what we can accomplish and get some interest from others, Neale said.

The Computing Center Interactive Learning Development Team consists of Eriq Neale, Joseph Hoffmann, and Project Manager Jenny Jopling. The Managerial Steering Committee consists of Dr. Philip Baczewski, Assistant Director of Academic Computing (baczewski@unt.edu) and Dr. Paul Gandel, Senior Director of Academic Computing (gandel@unt.edu).

Contact Jenny Jopling (565-4462) if you are interested in this new program. She will be glad to answer any questions you may have. The Computing Center will also help with locating funding for any projects undertaken.

The next issue of Benchmarks will feature more information about this project and interactive multimedia program development.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Peak Hour Access of Jove

By [Amos Gouaux\(amos@unt.edu\)](mailto:amos@unt.edu)

As many already know, we are getting a lot of complaints that folks are not able to login via the dialups to do their homework because all the phone lines are busy.

The Administration is currently considering several proposals to expand the dialups. However, until a decision is made, we ask that folks be particularly careful about their use of the dialups between the peak hours of 6:00PM-10:00PM, Sunday-Thursday. Please reserve this time for your most urgent UNT course or research-related activities. It would be very helpful if activities of a more recreational nature could be conducted outside of this peak time.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Determining if You Have Metro Line Access

By [Claudia Lynch](#), *Benchmarks Editor* (lynch@unt.edu)

Sometimes people think they should have access to the UNT Metro Lines but find themselves incurring long distance charges. We hope that this article will clear up some confusion about the Metro Lines.

First of all, **any time you dial 1+ (1+214) or (1+817) you are initiating a long distance call!** According to Tom Newell, UNT Telecommunications Manager, the [Metro] numbers are not true Metro lines, but rather local Keller (817 side) and Lewisville (214 side) numbers. These two numbers cover virtually all of the metro calling area but require two different numbers. **If you can't call Keller or Lewisville locally then you can't call our number either.**

According to Newell, There should be virtually no one left out of the traditional Metro area calling plan except in some very unique dialing plans (ie: people in Denton with GTE premium service can actually call either number free but they could not call a SWB metro number free). Because of those uniquenesses I would recommend they ask their local phone company if they can call local (not metro) Keller (for people in 817) or Lewisville (214 area) numbers free.

Newell recommends your do the following to determine if you have Metro line access:

- Try dialing the call just area code and number (i.e. 817-337-0063 or 214-221-0059) WITHOUT A 1+. Some limited areas may still allow dialing only the seven digit number (i.e. 221-0059) if they are inside the same area code (i.e. 214).
- If you get a recording, can't complete the call, etc. then it is most likely a long distance call for you.
- If you still think it should be a local call then: Check with your local phone company or the map in your local directory or If ALL ELSE FAILS, give the Computing Center your complete home telephone number and we'll try to check it out.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

UNT Newsgroups

By [Aaron Price](#), ACS Documentation Services Assistant (price@cc1.unt.edu)

Be sure not to miss out on the discussions and information available on UNT's own Usenet newsgroups! Through the Internet you can access over sixteen newsgroups that are specifically designed for discussion of UNT related issues. These newsgroups are a part of the Usenet selection that you can access from Jove or Sol (using TIN), CMS (using NNR), and through the Novell network (using Trumpet for Windows). Here is a quick rundown of what they are and their individual topics.

- **unt.general:** This is the granddaddy of the UNT newsgroup hierarchy. Here you can discuss almost anything related to UNT from Denton restaurants to United States politics. Serious campus debates can be found here alongside coffeehouse style chit-chat. Some announcements sent over Word Perfect Office Mail are also posted here for those who do not have WPOM accounts. If you are not sure where to post a message then a good safe bet would be this newsgroup.
- **unt.test and unt.test2:** If you are new to Usenet or are having trouble with Usenet this is where you go to test your newsreader. By keeping all test posts to this newsgroup you free up clutter from the other groups and that allows for better discussion.
- **unt.news.discussion:** Here the discussion centers on the Usenet hierarchy that UNT supports. You can find out about other existing or new newsgroups, ask questions about Usenet, and basically discuss anything relating to Usenet. In addition, discussion for the creation of new newsgroups takes place here.
- **unt.critique.teachers:** This is one of the more unique newsgroups because you can post anonymously to it. Critical reviews of good and bad instructors can be offered and found here for those not sure of whose class to sign up for. To post anonymously send your post via E-mail to: unt-critique-teachers@unt.edu The E-mail will be posted anonymously to unt.critique.teachers. It will only work on this newsgroup.
- **unt.events:** Want to know what is happening in the local music scene? Perhaps you would like to take a date to the next play performed by the Drama department but don't know where to get tickets? On this group UNT organizations can advertise upcoming public events and you can discuss any past or future events.
- **unt.networking:** Discussions here focus on the local UNT network consisting of topics that could include Jove, dialup lines, e-mail, and many, many others.
- **unt.org.irc.general, unt.org.irc.announcement, unt.org.irc.ipg, unt.org.irc.rpg, unt.org.irc.spg, unt.org.irc.cpg, and unt.org.irc.apg:** All of these groups relate specifically to the Information Resources Council and its policies.
- **unt.org.grad-students:** The name says it all. In this group graduate students can discuss topics pertaining to graduate studies.
- **unt.class.*:** A specific newsgroup is created for teaching purposes for some Computer Science classes. In these groups, students in the particular class are given assignments or instructions. The format for the newsgroups usually follows this example:
`unt.class.semesteryear.department.course- section or unt.class.spring95.csci.4450-002`
- **unt.sas:** Discussion of SAS related software and operations takes place here.
- **unt.org.mac-users:** If you have a question about Macintosh computers then this is the place for you. The Macintosh User's Group meeting minutes are posted here.

If you have an idea for a newsgroup that you feel UNT should create, send E-mail to news@unt.edu with your suggestion. A discussion will then be created on unt.news.discussion and after a short period a vote will be taken. If the suggestion passes then it will be added assuming it follows normal

Computing Center guidelines.

[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Novell ICT Program at UNT

By Mike Wright, Microcomputer Computer Systems Manager (wright1@cc1.unt.edu)

Institutions of higher learning begin to be recognized by their peers and the world around them when they are able to offer programs, services, learning, and other offerings which present both an element of uniqueness and are not easily reproducible. With this in view, it is noteworthy that the University of North Texas can announce that it now has in place the only program of its kind at an institution of higher education in the State of Texas - the [Novell](#) ICT program.

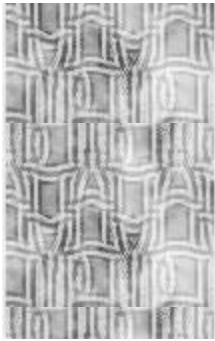
Over the last few years, UNT has developed a sophisticated Novell network to bring networked micro-computing to the desktop of all faculty and staff as well as to students through the General Access Labs. During the same period, however, the training of the network managers and other network support staff has been limited primarily to on the job training. With that in mind, the Computing Center set off on a mission in 1993 to bring to the University a complete training program that would produce certifiable network managers, thus guaranteeing that the already complicated technology currently in place would be able to be upgraded and enhanced in years to come. The obvious benefits from such an undertaking would be:

- improved individual network management skills.
- enterprise-wide network management abilities.
- a considerable cost savings to the University over the per-student prices of commercially available courses.

The Computing Center first looked to Novell for a solution because the University's network infrastructure was built upon their platform. After a number of false starts and trips down blind alleys, it was discovered that Novell offered a small but unique program to colleges and universities called the Internal Campus Training program or ICT. The ICT is a very limited program. Only the staff and faculty of the institution who directly support the network and its operations are eligible for training.

After getting through the legal hurdles and overcoming numerous changes in the program's structure by Novell, UNT was finally approved in the summer of 1994 to offer the training for NetWare 4.X, the latest operating system available which features enterprise-wide network management. The next step was to have some staff members certified as CNIs (Certified Novell Instructors) in the courses which needed to be taught to the network managers. In doing so, these courses then would be recognized by Novell as their own and the attendees could gain CNE certification by passing independently administered exams. **Ovee Rahman** of the Computing Center and **Abraham John** of the Division of Student Affairs were selected to become the trainers of record.

To become a CNE, certain minimum scores must be achieved on each of the seven courses offered in a given curriculum. To become a CNI, a much more rigorous standard is applied. First, the candidate must achieve significantly higher scores than those of CNEs on their exams. In addition, each candidate must adequately demonstrate content mastery and Novell approved teaching techniques to Novell itself through an Instructor Performance Evaluation. Through a strict grading process, incredibly high standards for teaching technique, and an extremely short period of presentation preparation time, Novell is able to exercise a great degree of latitude in selecting only the best possible candidates to represent them as trainers in the field. It is therefore with a great degree of satisfaction and pride that University can announce that both Ovee and Abraham have been accepted into this elite group of trainers.



[Previous Article](#)



[Next Article](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Training for Network Managers

By Mike Wright, Microcomputer Computer Systems Manager (wright1@cc1.unt.edu)

Training on the new NetWare 4.1 operating system has already begun with the first group of network managers having started on February 20, 1995 for three full weeks of courses. The initial offering includes four courses which provide a base for understanding the new operating system. These courses are:

- NetWare 4.X Administration,
- NetWare Directory Services Design,
- NetWare 4.X Installation & Configuration,
- NetWare 4.X Advanced Administration.

After a series of these courses have been offered to the network managers, the two remaining courses will be taught. They are:

- NetWare Service and Support
- Networking Technologies.

The cost of training each network manager is approximately 1/20 of what a student would pay for these courses in the market place. This translates into a cost savings to the University of more than 95% per student over prices of commercially available courses. Each attendee receives a certificate upon completion of each course and may then take Novell's nationally administered test at an independent testing site for CNE certification.. Each test costs \$85.00 for which the students must pay themselves. If they achieve the necessary minimum score on all the tests in a curriculum, they will be awarded their CNE by Novell.

The classes are being held in a new training facility in the Information Sciences Building jointly created by the School of Library and Information Sciences and the Computing Center (ISB 203). The facility, which has state of the art equipment, is designed in such a way as to present the best possible combination to the learner of instructor-led software training and classical lecturing.

This kind of effort by the University to provide the technical training needed to maintain its strategic technical infrastructure demonstrates to its peers and to the community at large that we value not only what we can do to educate and empower others but we also value what we can do to further the technological understanding of our own. Through programs such as these, the University of North Texas continues to demonstrate its technological leadership as it moves into the twenty-first century.

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Information Resources Council News

Minutes provided by Sue Harrison, Recording Secretary



IRC Regular Voting Members: Ray von Dran, Library and Information Sciences (Chair); Cengiz Capan, College of Business; Carolyn Cunningham, Student Affairs; Paul Dworak, College of Music; Brian Forsman, UNTHSC Information Resources Council; Chuck Fuller, Fiscal Affairs; Larry Gleeson, School of Visual Arts; Don Grose, Libraries; David Hartman, School of Community Services and School of Merchandising and Hospitality Management; Sam Magill, UNTHSC Director of Information Technology Services; Steve Miller, Administrative Affairs; Tom Newell, Telecommunications (Ex-officio); Don Palermo, Academic Administration; Jean Schaaake, College of Arts and Sciences; Paul Schlieve, College of Education; Ronald Sutcliffe, Graduate Student Council; John Todd, Faculty Senate; Virginia Wheeless, Associate Vice President and Director, University Planning and Institutional Research; Steve Williams, Undergraduate Student Association. **IRC Ex-officio Nonvoting Members:** Bill Buntain, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Paul Gandel, Computing Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center.

February 21, 1995

Strategic Plan

Richard Harris distributed the final draft of the State Strategic Plan, a copy of which had been given to President Hurley, and which is on file in ISB 235.

GroupWise Report

Bill Buntain reported on the status of GroupWise E-Mail implementation. He explained that the E-Mail Commission stated in its final report that a centrally administered mail system was desired. Therefore, Bill and his group met with the vendor, Novell, to determine exactly what that would mean, and to get their input as to how a campus mail system should be architected and managed. Novell's recommendation for several scenarios presented to them was to establish a central mail domain for campus, which would be centrally managed. Distributed areas would be responsible for user management, and set-up of users in their respective areas.

Bill explained that there is a student mail system provided through ACS; and colleges will still be able to establish student e-mail in their own domains. At the present, Bill is waiting for responses from Novell to some questions he presented to them regarding design issues. A pilot plan for implementation has been sketched out with the Computing Center being brought up first as a test, then bringing in College of Education, School of Community Service, Music, with College of Business, Arts & Sciences and Administration Building being brought on-line by May 1.

Some administrative issues are guidelines for retention of E-mail, and training. Since all of the courses needed are not presently being offered, Bill is talking with Novell about the possibility of sending our E-Mail Specialist to Utah to work with their people.

Discussion followed on the subject of E-mail retention, which indicated the complexity and sensitive nature of this subject. Don Grose said he would discuss the issue with the University Archivist. There was also some discussion regarding the need for a clear management structure for the E-mail system on campus, including the internet system, and for the communication of that structure to all LAN Managers. It was also pointed out that when changes are made to the E-mail system, that also needs to be communicated to LAN Managers. Richard Harris stated that he would be responsible for making sure that happens.

Communications Program Group

Bill Buntain reported for the Communications Program Group that Novell has come out with a new licensing arrangement that will significantly change the way UNT handles their products. The new arrangement will allow UNT to obtain not only WordPerfect products, but also Novell Netware products without having to track the number of copies. In addition, faculty, staff, AND students can take a copy home as well as have a copy on a computer at their office on campus. The cost of the new license will be \$120,000 with an additional \$40,000 for student licenses. Bill explained that he will be negotiating with Novell to try and apply what UNT has already paid into the current program.

Dialup Services

Bill distributed a Proposal for Funding Expansion of UNT Dialup Services. He explained that he had put basic factors in this document for making a decision about funding the proposal but he did not believe a decision could be made at the level of the program group. He encouraged everyone to read through the proposal, looking at all of the possible solutions. Discussion followed during which it was agreed that there is a great demand for more dialup service, that a fee increase will not be looked upon favorably by the administration, and that a decision needs to be made soon.

[Previous Article](#)



[Table of Contents](#)

If you have problems or questions about this server, please contact me as soon as possible. You can send mail to the following address:

WWW@unt.edu

Operating Systems

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

We thought it would be fun to spend part of the summer talking about operating systems. You know, the software that actually makes it possible for your computer to do the sorts of things you expect of it. The Encyclopedia of Computer Science (1976, First Edition, pg. 1003) defines an operating system as follows:

Basically, an operating system is the software (programs and data) that initiates the interaction of the electronic and electro-mechanical components of a computer so that they constitute a useful system for carrying out calculations [or other tasks].

So ... without an operating system of some sort, you wouldn't be able to use your computer!

Operating environments are not operating systems, per se. They make requests of the underlying operating system software rather than issue commands directly to system hardware. Graphical User Interfaces (GUIs) like [Windows95](#) and [Linux](#) are operating environments. The terms operating system and operating environment are frequently interchanged these days, however.

It would be impossible to talk about all computer operating systems/environments, there are thousands. So, we picked a few that we thought would be of interest to the campus community. They are [OS/2 Warp](#), [Windows95 \(Preview Edition\)](#), [MacOS System 7.5.1](#) , [Linux](#), and [Solaris](#).

Operating systems is a topic that can generate a lot of controversy. People have their preferences, and OS loyalty can get ugly, but with a little understanding, we should all be able to get along.

--	--	--

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

... Warp 3

... Engage !

By Faisal Islam, Student Records Data Systems Programmer (Islam@cc1.unt.edu)

The following are my opinions only, so please treat them as such.

I remember the day I dialed the 800 number to order the Beta 2 copy of [OS/2 Warp](#). It was offered on either CD-ROMs or diskettes. I was especially interested in the latter because it came in 28 high quality 1.44 MB diskettes. I figured, for \$14.95 (shipped to my door) that was a pretty good deal for diskettes. Testing OS/2 was the last thing on my mind. The diskettes arrived and the package sat unopened by my computer for a few days. Gosh, the saying about the cat and its curiosity is so true. In time, I found myself trying to install that thing on my computer. The sparse instructions said to insert the disk marked Installation into drive A: and turn the computer on. I did that and it chugged along. It asked for the next disk, I inserted that and it chugged along. Then the next disk and the one after that and the one after that . . . and . . . then . . . BAM !!! For the first time in my life, I was looking at the fangs of an OS/2 error message. Yuck, UGLY! It was a SYSXXXX (X=a number) and some Greek. What the dickens does it mean? The enclosed few pages of documents said nothing about this SYSwhatever. Eighteen hours, hundreds of phone calls, gallons of coffee, pounds of aspirin and many healthy doses of nicotine later my computer was running OS/2 Warp. So now that I conquered the beast, I could deinstall it and reformat those diskettes in peace. Little did I know that I had just embarked on a journey into the guts of a 32 bit multitasking, multithreading, multihookeedoo operating system for the Intel platform. My mission? To boldly go where no moron has gone before (apologies to ST TNG).

I started playing with Warp and reading up on it. It had a really attractive and comprehensive online tutorial and I checked that out. Things were quite similar to the Windows environment I was so accustomed to but at the same time so (for the lack of a better term) different. The GUI was nice. I especially liked the default color scheme of the teal background with purple titlebars. The right mouse button had a purpose, it did things. And goodness, this thing was so customizable. If I didn't like the way something worked, I could change it to the way I wanted it, easily. Didn't like the default fonts? No problem. Open the Font Palette, drag a font to the place I wanted the new font to display and drop it. Didn't like a color? Open either the Mixed or the Solid Color Palette, drag my color of choice and drop it. It was smart enough to configure itself to the new settings and remember it. OS/2 gives an icon to everything. You just bang on the icon and it works. They call it an object. You can drag an object anywhere you want it to be. In a folder, on the desktop (they call this the Workplace Shell, WPS in short), to the shredder, to the printer, to the fax, you name it.

Drag-n-Drop

The concept of drag-and-drop can really spoil you. For example, I configured the spell-checker of the word processor as an object. When I want to check the spelling on the document I am working on, I don't select the function from the menu. Instead, I just drag the icon of the document and drop it on the Spell-Checker. I am instantly back to the editing mode while the document is being checked for spelling mistakes, in a totally different thread. Every time it finds a misspelled word, it pops up a window in the foreground with the offending word and a list of possible correct words, waiting for my response. Compare this to DOS. I would be waiting for the computer to finish checking the document twiddling my thumbs. The same thing applies to printing, saving to disk, importing/exporting, repaginating, checking grammar, search/replace, you name it. The focus returns to you the master almost immediately. Be aware, that I am talking about native OS/2 software here, the ones designed to take advantage of these features of the OS.

Long Filenames

I got really attached to the long file names. Now I can name my file First, final and only draft of the article on OS/2 Warp for Benchmarks which includes mixed cases and spaces in the name. Compare this to the 8.3 DOS convention I was living with from the day I started working on computers. (Of course, this naming convention is not new, UNIX and Apple/Macintosh users have used this from way back when.) When I do a DIR on my data subdirectory from a

command prompt, I know which file is what. I don't need to remember what is in the file OS2D1BNC.MW2. The filenames can be 255 characters long, long enough for a brief summary of the contents. If I open up the icon view of the subdirectory (represented by a folder on the WPS) I see my beloved long filename there too.

HPFS/FAT

Most of you are familiar with FAT - File Allocation Table. This is a scheme of formatting the hard and floppy disks. OS/2 will install and run quite nicely on a FAT formatted hard disk. You will, however, find that OS/2's own HPFS (High Performance File System) to be far superior than FAT. HPFS allows the Long Filenames, is much more resistant to fragmentation of files, stores files more efficiently, and is quite a bit faster than FAT. You can install and run all your DOS/Windows software on a HPFS partition. (The DOS/Win software will have to adhere to the 8.3 file naming convention, though). Note that only hard drives can be formatted HPFS (I hear that the new ZIP drive by Iomega can also use HPFS if you lock the disks). Floppy disks are, unfortunately, still FAT.

Different Versions-Red/Blue/Connect

OS/2 Warp 3 comes in different packages. (Note, this is version 3, not 3.0. With this release, IBM went to great lengths to avoid the stigma of n.x nomenclature of software distribution. The next version, I'm assuming, will be Warp 4.) The box with the red spine does not have the Windows code but the box with the blue spine does. The red uses your existing Windows code to provide support for Windows software. Since IBM has to pay Microsoft a royalty on each copy of the Windows code it sells with OS/2, the price is quite a bit more for the blue box (also known as the Full-Pack). There is also an upgrade version of the Full-Pack, which upgrades the OS/2 code from version 2.1x to 3, but uses (migrates) the Windows code from OS/2 2.1x. This version is sold at the same price as the red. The Windows code used in the Full-Packs (known as Win/OS2) is almost the same as the code found in MS Windows 3.1x sold by Microsoft. The only difference is that IBM decided to compile the source using their own compiler, giving the resulting code a 10% performance boost. IBM, however, did not clean the Windows code of its shortcomings. By the time you read this, Warp Connect will be out. This will add support for all the networking features missing in the red and blue Warp (TCP/IP, LAN Server, LANtastic, Windows for Workgroups, Windows/NT, Novell Netware, etc.). The Warp Connect will primarily be aimed at organizations that operate in a networked environment. This too, I hear, will have two flavors, one with the Windows code and the other without. The one with the Win/OS2 code is supposed to come out first. (Warp for the PowerPC is in beta at the time I am writing this. Knowing IBM, they will release the PowerPC computers before they finish work on Warp PPC, giving Win/NT a clear head start. Sigh).

Backward Compatible With Most DOS/WIN Software

Warp is backward compatible with most DOS and Windows software. IBM decided on this backward compatibility with last decade's software so that both ISVs (Independent Software Vendors, the people that write and sell software) and users alike will have ample time to catch-up with native OS/2 software. I say, compatible with most software because you will find a small number of packages that don't run under Warp at all or don't run well. Some DOS games make direct calls to parts of the computer and Warp, a protected mode operating system, will simply not allow that. Some Windows software that make use of undocumented hooks to the Windows code will also not run or run well under Warp. If you absolutely have to run these games and software, you can always boot to DOS via Boot Manager or [Dual Boot](#) and run them there.

Warp Enhances DOS/Windows ?

There is a misconception that you need DOS and Windows already installed in your computer to install OS/2 Warp, in other words, Warp is an add-on shell or utility of some sort. I don't blame these folks for thinking like that at all. Look at the front lower right hand corner of the red Warp box. Right by Version 3" it says Enhances Your Existing DOS and Windows." Excuse me? As Bubba User, who doesn't know the difference between an archaic 16-bit real-mode single-tasking operating system and the purdy graphical shell that sits on top of it, how on earth am I supposed to know that OS/2 Warp is a full fledged operating system on its own merit? Trust IBM Marketing to package Warp like this. Well let me tell you, Warp can be installed in a brand new computer that doesn't have anything in its hard drive at all. Warp

includes DOS support by default. Say you installed the red pack on your new computer. You will be able to run all native OS/2 software right away. If you installed DOS support, you have the capability of running almost all DOS software. If you want to run Windows software, you will have to install the Windows support. If you installed the red pack, you will need the Windows code sold by Microsoft. If you installed the blue pack, Windows support (in the form of Win/OS2) is already included.

Boot Manager/Dual Boot

Like other advanced operating systems, OS/2 includes the capability to allow the user to select the environment she wants to boot to. Warp includes two such utilities. By default, Warp installs Dual Boot. This allows the user to boot into either DOS or OS/2 depending on the environment she was in the last time she shut down the computer. Dual Boot, as the name implies, allows only two OSs to reside on your system and on the same partition of your hard drive. The other one is called Boot Manager, which allows more than two OSs to cohabit on your computer and gives you a menu at boot time to pick the environment you want to boot into. Boot Manager installs in its own 1MB partition. With Boot Manager you can have a partition for DOS, one for OS/2 Warp, one for Linux, one for Windows NT, and so on. Boot Manager is slightly more difficult to install and configure than Dual Boot, but is a whole lot more flexible.

Multitasking/Multithreading

The concept of multitasking and multi-threading originated in the mainframe environment. Multitasking, as the name implies, is performing two or more tasks at the same time. There are two kinds of multitasking, cooperative and preemptive. Under cooperative multitasking, each program is supposed to give up the control of the CPU after a certain amount of time. This is fine when you are running only well written applications. But in the real world, it is seldom the case. One misbehaving program can thus grab hold of the CPU and not let go of it, causing all other active programs to stop running. Microsoft Windows 3.1x and Macintosh System 7 use co-operative multitasking. Under preemptive multitasking, the operating system controls which program will get how much CPU time and when. Modern operating systems like OS/2, different flavors of UNIX, NEXTSTEP, etc. implement preemptive multitasking.

Multithreading is the concept of spawning child-processes under a parent-process, which will be treated as another independent task by the operating system. Let me give an example. I m working on my 1000 plus page document (Titled One surefire way to win big in Lotto - a loser s perspective) on my native OS/2 word processor. I need to print this document on my printer, fax a copy of it to my publisher in Timbuktu, and save it on my hard drive. I start the save and it opens up a thread of its own, returning the control of the program to me in no time. I select print to printer, and it opens up two different threads (one to spool the document and the other to print it out), returning the control again to me in no time. Then I select print to fax (Note: the fax is configured as a printer and uses LPT3 on my machine) and it activates the fax software on yet another thread. I select the fax number of my publisher and press the send button. I am back to my word processor instantly. Now my word processor is saving the file, printing it, and faxing it, all in individual and independent threads. This is multithreading.

I can now open my Drive A object and format the stack of diskettes that has been sitting on my desk for a few days. As I am formatting the disks in the background (mind you, without slowing down any other programs running on my machine), I remember that I need to back up my system. So I insert a blank tape in the attached tape drive and thump on the icon for GTAR (This is a port of GNU TAR, a UNIX program). The tape backup starts in the background and I hear the tape drive going through it s see-saw motion. Now that my computer is taking care of business in the background, I decide to check out Galactic Civilizations, a 32 bit OS/2 game. This is multitasking. While playing a round of GalCiv I am thinking, WOW this preemptive multitasking is so cool, why did I not start this two years ago?

Crash Protection

What do you do when one of your active programs Trap under Warp (Windows users: read GPF)? Most of the time, you just kill that program and chug along. (There are many ways to kill a program, but that is a topic for another time.) I have yet to find a released version of an OS/2 program to Trap on me (I m not talking about beta stuff, but the real ones that you pick up the phone and call Indelible Blue or OS/2 Express and have delivered to your door in two business

days). But it happens to me every time I run a certain word processing program on my machine (hey, no names here, I'm just trying to avoid a civil war on this campus, okay). So now that I know that I'll have to use this un-kosher bloatware for a few more weeks, I just run it under its own VM (Virtual Machine). As far as that WP is concerned, it thinks it is the only program running on the computer. I have set its auto-save feature to activate every five minutes. So when it dies (and yes it dies), all I lose is a max of five minutes worth of work. And since it was running under OS/2 in a separate session, I just kill that VM and restart it again. Misbehaving DOS and Windows software can be run (you will have to configure it, though) in separate sessions, so when one goes down it leaves the rest of the system unscathed. In my DOS days, I'd have to do the three finger salute (you know, the popular vay routine) when something died. Warp recovers gracefully from a crash. Crash protection under OS/2 is far from flawless, but it is the best I've seen on a PC so far.

Hardware Requirements

The box of OS/2 Warp lists the following as hardware requirements:

- Intel 386SX - compatible or higher based personal computer
- 4MB of random access memory (RAM)
- 35-55MB free hard disk space
- 1.44MB 3.5" diskette drive
- VGA video support
- IBM-compatible mouse
- An OS/2 compatible CD-ROM drive
- Multimedia-ready system for sound

Note to the unwary. The above is the minimum requirement to load Warp on a computer. With a configuration like this you will be able to install Warp all right, but you will not be able to run much software without jumping through fire rings.

In my brief experience with OS/2 Warp, I have found that the amount of RAM in your system is more important than the speed of the processor. I would suggest at least 8MB of RAM. Warp starts to shine at 12MB and glow at 16MB and above. For the processor (CPU), I would suggest at least a 386DX/33; if you have a faster CPU, more power to you. Note that there isn't much difference in the performance between an SX and a DX processor as far as Warp is concerned. If you do a lot of numeric calculations or work with large graphic files, a DX CPU or a numeric co-processor is highly recommended. Otherwise, an SX processor will serve you just fine. The recommended disk space of 35-55MB is only to install Warp. You will need more space (the box says up to 30MB) to install some of the slick packages from the included BonusPak. The CD-ROM is required only if you want to install Warp from the CDs and want to use the CD-ROM for other things. Remember, Warp also comes in 1.44 disks for people like me that don't have a CD-ROM drive.

Subpar Hardware

You will hear a lot of people grumbling that Warp is hard to install and/or doesn't install on their computer at all. Others will say that something works fine under DOS but doesn't work under Warp. This is the result of either one or all of the following.

- (a) They don't know how to because they didn't read the superb (sarcasm intended) manual that came with Warp.
- (b) They have one or more hardware conflicts.
- (c) They have sub-par hardware.

For (a) above, I suggest reading the manual. Things work differently under OS/2 than under DOS. Also OS/2 does a whole lot more than DOS. If you don't know how to work it, reading the manual is one way to find out.

For (b), you will be better off enlisting the help of somebody that knows hardware. DOS never cared if you share IRQs and DMAs (please don't ask me to explain these I don't understand them much myself) between your modem, mouse

and sound card for instance, but just try it with OS/2. It will have a cow. Under DOS, you can share these things because two or more programs are quite unlikely to access an equal number of devices that share the same interrupt at the same time. Not quite so in a multitasking environment like OS/2, where you are running two or more programs concurrently. Note that there is no easy way of finding which component is using which IRQ in your computer unless you open it up and compare the jumpers on the cards against their manuals. You can use the MSD program that comes with DOS to find out about the IRQs, but it will work only if you have a Plain Jane setup. MSD is good for ferreting out certain things, but I certainly don't use it for my IRQs anymore.

For (c), you will have to understand that OS/2 pushes your hardware to the extent that DOS never dreamt of. A lot of hardware manufacturers have been getting by, by making stuff that does not quite conform to the specs they were supposed to. If you want to test your hardware, install OS/2. It'll tell you right away if your computer has kosher components or not. One example is memory. A flawed SIMM module may work just fine under DOS for years, but it'll promptly give you an error (one of those ugly SYSxxxx errors) under OS/2 at bootup time. If you wanted to detect this flaw under DOS, you'd have to run some memory checking program for a few days in a row. So if you want to run Warp (or any advanced 32 bit OS for that matter), proper hardware is essential.

Virtual Memory

OS/2 uses a flat memory model, quite unlike DOS. It uses a file called swapper.dat on your hard drive to provide virtual memory. This is a dynamic file in that it changes its size whenever it needs to. If you are running more programs than you have physical memory for, OS/2 will actively page parts of the memory in and out of this file. It will expand in size to accommodate the memory requests of your active applications. When you exit some applications and OS/2 does not need to provide as much memory, it will shrink the size of swapper.dat. It almost acts like a living being. On memory constrained systems (6MB or less RAM), swapper.dat gets quite a workout depending on what applications you are running. Hence people complain that OS/2 thrashes the hard drive. I've taken a computer with 64MB of physical RAM through its paces, and believe me, it hardly touched swapper.dat! OS/2 provides excellent memory management for itself and any application you wish to run on it. Gone are the days of a 64K limit and 16 bit memory addressing. With the 32 bit memory model, programmers will be able to work much more easily with large data structures.

FixPacks

Don't let anybody tell you that Warp is 100% bug free. It certainly is not. Periodically, IBM releases a set of bug-fixes that they call CSD (Corrective Services Disk) or FixPak. These are available free or for a nominal charge, depending on where and how you get them. They are available from IBM's anonymous ftp site at:

[software.watson.ibm.com in the /pub/os2/os2fixes directory.](http://software.watson.ibm.com/pub/os2/os2fixes)

They are also available on CompuServe and some other mainstream online services. The recently released FixPak #5 corrects some 50 odd bugs in the red Warp.

A word of warning to my obsessive-compulsive friends. Always read the list of the bugs a CSD is supposed to fix. If you find any that you have experienced on your machine, apply the fix by all means. Don't just apply it for the heck of it. If you do, you may be sorry later (trust me, I know) because the fixpak may break something else that was working beautifully.

BonusPak

IBM made one smart move when it included the BonusPak with OS/2 Warp. The rationale was that new users (converts from other camps) would be able to hit the ground running with these staples. I think this BonusPak is a mixed bundle. The overall value is quite a bit more than what you paid for it. The following Bonuses are included in this Pak.

- **CompuServe** Information Manager for OS/2 I don't have an account with CompuServe so I didn't install this. But I played with it on a friend's computer, and it is slick. If you can justify the cost of the membership, this is a

worthwhile package.

- **IBM Works and Personal Information Manager** This is a suite of mini applications including a word processor, spreadsheet, database, report writer, charting program, calendar, monthly planner, appointment book, phone book, contact list, To Do list, and a notepad. The quality of this product is average and it has the capability to adequately serve the needs of home users. Business (power) users will find this package rather limiting. I have it installed and use most of it quite often. A word of warning: this entire suite is a memory hog. On memory challenged systems it tends to slow down the computer as soon as you install it. One way to alleviate this problem is to run the IWDEREG.CMD file. Don't ask me how, but this will de-register IBM Works from the WPS and free up quite a bit of memory.
- **FaxWorks for OS/2** This is one of the winners in the BonusPak. The driver for this is installed as a printer driver and is assigned LPT3 by default. Although this is the lite version, it is a very capable piece of software. I just love the way I can drag a document icon and drop it on the FaxWorks icon to fax it and away goes the fax. Incoming faxes can be viewed, printed, archived for later reference the works. I can upgrade to the Pro version for a small fee, but don't really see the need for that.
- **HyperACCESS Lite for OS/2** This is a communication package that I haven't installed. I have, however, heard from a lot of people that this is one of the lame applications in the Pak and IBM would do a lot better if they bundled either ZOC (Zap-O-Comm - a shareware package) or LiveWire (another shareware package) instead of this. One of these days I'll install it and see if all these grumblings are justified or not.
- **IBM Internet Access Kit (IAK) for OS/2** Here IBM packed a powerful suite of applications to surf the net. The quality of the components range from superb to mediocre. The suite includes a mail program (send/receive E-mail), news reader for USENET, gopher, telnet, ftp, and WebExplorer (the Warp counterpart of NetScape/MOSAIC). I had it in my system for a little while to check out the service of a local ISP (independent service provider, the folks that sell you dial-up access to the net). I loved the WebExplorer and ftp on a borrowed 14.4 fax/modem (mine is a 24/96 dinosaur). Good things tend not to last for long, I really hated returning that 14.4. I was able to run multiple copies of WebExplorer to connect to different web sites simultaneously (while one window was loading I was reading another one and downloading a file from yet another one! Cool, huh!). If you use this package, you will have to subscribe to a service. You can choose between IBM's Advantis or another ISP. IBM's Advantis comes with a few hours of trial (free) time, after which you'll have to pay IBM-grade price for the service. You can find a much better deal if you shop around.
- **Multimedia Viewer** This is a manager/organizer/manipulator of multimedia stuff like audio, video, image, etc. I didn't install this on my computer.
- **Video IN for OS/2** This is a video editing facility that allows you to make video clips for your word processor, spreadsheet, presentations, etc. I don't have this installed on my computer.
- **Person to Person** This is a work-group conferencing tool where you can hook up a total of eight computer users over a network of phone lines, LANs or ISDN and share thoughts and documents on a real-time basis. It has a chalkboard area where changes to the document can be made by any member and seen by everyone connected. It also allows file transfer between the connected machines. This package requires at least 8 MB RAM to operate, performance improves radically with more RAM.
- **Systems Information Tool** This is supposed to tell all the secrets of your computer. It has known bugs and I don't know if any update (CSD) has been issued for this yet. My friend's Pentium 90 was detected as a 486DX2/66. He was quite upset because he thought his Pentium was a 486 in disguise. He, however, didn't know about the bug at that time.

Launchpad

This is a program launching template that is new in Warp. It is a very customizable and attractive little tool. You can drag and drop all of your frequently used programs on the Launchpad. Then just click on the desired icon once (not even a double click) to start the program. The Launchpad can be configured to float to the top, to be in a horizontal or a vertical position, to start programs with double-clicks, etc. It has drawers that you can use to put more icons in. I just cannot imagine living without it.

Minimize To Desktop, Viewer, Hide

One feature I like in Warp's WPS is the options I have to manage the clutter on my desktop (screen). I can minimize all my background programs to an icon on the bottom of the desktop, just like the way Windows 3.1x does. I can also configure it to make all minimized programs go to the Minimized Window Viewer, a la Macintosh. This is another window that keeps all the minimized program icons. If you want to restore any minimized program, you go in the viewer and doubleclick on the desired icon. The one I like best is the hide feature. If I minimize a program, it just disappears from the desktop. I normally have anywhere between seven to ten programs running at the same time, so I prefer not to have all my background programs clutter my desktop. If I want any back, I either chord the mouse on the desktop (chord = to click both the right and the left mouse buttons simultaneously) or hit [cntrl-esc] to bring the Window List and can easily pick my program from there.

I would like IBM to make WPS into a virtual desktop on the next release of Warp. With a virtual desktop, you are not limited to what you see on the screen. But the screen becomes a scope of a viewer and you can scroll left, right, up, and down. Your screen becomes liberated and you are free to put all your programs in different quadrants in space. There are some shareware programs that have this feature and they work moderately well. Another package called Object Desktop (by StarDock Systems) is in beta as I write this. This has the virtual work area I'm talking about. The Object Desktop will give the WPS a really slick look and add a lot more functionality.

Software Sources

Where do you go for native OS/2 software? You will find OS/2 stuff at many of the large software stores. There are some places that specialize in OS/2 software exclusively. You can also check out the increasingly rich repository of freeware and shareware programs on the anonymous ftp sites and BBSs. The following are some of my favorites.

Software Houses:

- Indelible Blue (exclusively for OS/2 stuff) (800)776-8284
- OS/2 Express (exclusively for OS/2 stuff) (800)OS2-KWIK
- MicroWarehouse (800)367-7080
- EggHead Software (800)EGG-HEAD
- Provanage (800)336-1166
- Programmer's Paradise (800)445-7899
- CompUSA (800)COMP-USA

FTP Sites:

The following two are the main OS/2 archive sites on planet Earth.

- Hobbes : hobbes.nmsu.edu in the /os2 directory
- CD-ROM : ftp.cdrom.com in the /.4/os2 directory

There are many more ftp sites around the world that mirror the above two for the most part. Whatever is uploaded in these minor sites quickly shows up on the two major ones. The best thing to do is to download the index file from the root directory to find what they have there. If you find anything interesting, just go back and grab it. Please remember to register any shareware stuff that you like and use on a regular basis.

WWW SITES

I've found quite a few places on the World Wide Web that offer information on OS/2. Some of the places I like are

- The MIT OS/2 WWW Home Page <http://www.mit.edu:8001/activities/os2/os2world.html>
- The Berkeley OS/2 Home Page <http://warp.eecs.berkeley.edu/os2>
- Team OS/2 <http://www.teamos2org/>
- PC Lube & Tune's OS/2 Warp Internet Access Pages <http://pclt.cis.yale.edu/pclt/winworld/os2.htm>
- LEO's OS/2 Archive <http://www.leo.org/archive/os2/>

- Jack Tan's Web Page <http://www.cen.uiuc.edu/~jt11635/os2/os2.html>
- OS/2 Warp Monthly Newsletter <http://www.austin.ibm.com/pspinfo/mnlvolume1.html>
- Hobbes Virtual Mirror Homepage <http://www.columbia.edu/~chs11/hvm.html>
- BMT Micro Shareware Catalog <http://166.82.142.130/bmthtm/bmtmicro.htm>

(Note: The World Wide Web is very dynamic. Some of the URL's above may change from time to time.)

Easy Ports From UNIX, WIN95/NT

The internals of Warp are said to be quite similar to the internals of UNIX. Both are 32 bit preemptive multitasking multithreading environments. There have been a lot of ports of software from the UNIX environment. I am using the port of GNU TAR, an archiving package on my computer. The resulting port is a command line OS/2 software that I use to backup/restore from an attached SCSI tape drive and/or diskettes. The source code of most 32 bit software is supposed to be transportable between operating systems. If an ISV writes software for Windows 95 or NT, for example, that can be easily ported to OS/2 and vice versa. This should facilitate the (decreasingly) anemic native OS/2 applications market.

New Developments

The market for suites for OS/2 is quite lucrative at this point. The lite suite made by Footprint is included with Warp as [IBM Works](#) (IBM made a deal with them). Then there is the SmartSuite for OS/2 by Lotus. And that is all you can get right now.

But that is about to change. Star Division of Germany is working on another suite for OS/2 (to be called Star Office, maybe?). I've only seen their Star Writer/2, the word processor in the suite. Its demo is on Hobbes, if you are interested. Rumor has it that a small startup company in Hartford, Connecticut is working on another suite. If this is true, they are being very tight-lipped about it.

A company named Mount Baker Software is working on an accounting package that will compete feature to feature with the industry leader Quicken (by Intuit). Maybe it is time for Intuit to release a native OS/2 version of Quicken.

On the word processor front, you have Ami Pro by [Lotus](#), the word processing package in IBM Works, the orphaned [WordPerfect](#), Clearlook, Describe, the up and coming Star Writer/2 and a few others not worth mentioning yet (I'm writing this article on one such package that's in beta. My lips are sealed, so can't say anything about it yet.)

In the database front, you have the lite database included with IBM Works, and the mighty DB2/2 by Big Blue him/her/itself. In my Programmer's Paradise Summer 95 catalog, I see ADABAS for OS/2 by Software AG. You also have OnCmd by Online Data, IBM's Watcom SQL, and R:Base by Microrim. I'm sure there are more that I don't know of.

For spreadsheets, we have Lotus 1-2-3, Mesa/2 (Mesa/2 by Athena was ported from NEXTSTEP) and the one included with IBM Works. I'm sure the suite from Star Division will include a spreadsheet package, but don't have any information on it yet.

Take a good look at the above sampling. What do you see? Yes, you are right, not a whole lot of native OS/2 software. What else do you see? Ah hah!! You see the opportunity to make oodles of money! The OS/2 marketplace is not saturated like DOS/Windows. The installed user base is growing rapidly, and they are clamoring for good software. If you know how to write software, good stable ones that is, you can make some serious money here. Wanna take the gamble?

Games

I'm not much of a game enthusiast, but I really couldn't help noticing the developments occurring in this arena. There aren't many commercial games available for OS/2 yet, but watch out. By Christmas this year, or even before that, we

will have some that will take the games market by a storm. Some of these games in development right now are making real good use of OS/2's multithreading, graphics and multi-media capabilities. I'm aware of two such games in the making by StarDock Systems. One is called Avarice and the other Entrepreneur. Knowing StarDock System's track record for producing quality software and games, these two games will certainly vie for my wallet.

Among others that are already out there and worth mentioning is SimCity Classic for OS/2. This was originally made by [Maxis](#) and is available in DOS, Windows, UNIX and the Macintosh platform. The OS/2 version was a port from UNIX. Another game worth mentioning is StarDock System's Galactic Civilizations. This is an original OS/2 game. I don't know if it is (or will ever be) available in other platforms.

There are quite a few shareware and freeware games available under OS/2 also. The quality of these games range from totally horrendous to dangerously addictive. Warp itself comes with some card and board games. Then you have the likes of Aquanaut, VPoker, Roids, HeliRescue and Trickle Down. Since my interest in computer games is very feeble, I haven't taken much time to evaluate these. Again, if you like and regularly use any of the shareware offerings, please remember to register it with the author. That way you not only encourage future developments and enhancements, but also in most cases, receive upgrades and additional modules for free. Besides, you have a clear conscience.

My Installation Escapades

Installing OS/2 is not for the faint of heart. You never know which included device driver will work and which will not. If something doesn't work, you will have to go hunting for the proper drivers and/or parameters, assuming you know how and where to find them. You may end up with a smooth-as-silk install or you may end up with the worst nightmare of your life. I had to wrestle with it on my computer quite a bit the first time I installed Warp. That was, however, a Beta copy loaded with high quality bugs. When I installed the released version, I already knew the pot-holes and was able to avoid them with no problem at all. In fact, I installed Warp three or four times on my system because I either wanted it on a different partition on my hard drive, or had to re-size the partitions to keep SWAPPER.DAT in a specific place, or wanted to reformat the partition from FAT to HPFS, or messed up my configuration so bad that reinstalling was the cheapest way out. Installing Warp was the best entertainment I never paid for.

Let Somebody Else Install it for You

Since then, I've installed Warp in a few other machines with mixed results. A few were quite, um, boring. Warp installed without much ado at all. On some others, I had to logon to some card-manufacturer's BBS and download the latest drivers and stuff, fiddled with the jumpers and dip-switches, cleaned the cobwebs inside the case, etc. One installation left me totally baffled. Warp couldn't agree with that hardware at all. Later, my friend told me that IBM Support gave up on it too. He took the copy of Warp back to [Computer City](#) for a full refund. He is still running DOS/Windows quite happily. So the moral is, if you are squeamish about wading through IRQ's, DMA's, COM ports, device drivers, BBS's, etc., find somebody with the expertise and patience who will be willing to do the dirty work for a six-pack of beer. Or buy a computer with Warp pre-installed (see below).

Vendors Pre-installing Warp

IBM is finally getting manufacturers to pre-install Warp on some of the new computers they sell. This is excellent news for people buying new computers that want to run OS/2 Warp, but don't want to go through the adventure of installing it. New computers from companies like [Dell](#), [Alaris](#), CompuAdd, Austin Direct, IBM PC Company (about time!), [Toshiba](#), etc. are getting Warp pre-installed either as an option or by default. Rumor has it that AST, [Compaq](#) and [Micron](#) will also join the ranks. In Germany, [Vobis](#) and Escom, two major manufacturers, are exclusively pre-installing Warp on ALL their computers.

Tweaking

The default settings of Warp at installation are not always optimal. People try to blame this on IBM, but I don't agree with them. The Warp engineers probably took the middle-of-the-road approach because of the myriad of PCs warp will

run on. No two PC s are alike. After a short while, PC s tend to take on the personality of their owners. So something that works great on my computer may not work the exact same way on my identical twin brother s computer. Like OS/2, its users tend to be very demanding. Hence you find them tweaking their CONFIG.SYS to squeeze out that last drop. There are two great tools to make tweaking a pleasurable experience. The first one is a freeware called CFGINFOx.ZIP. Look for it on your favorite BBS or ftp site. The second package from Clear & Simple is called Performance Plus. You can use either or both of these packages to boost the performance of your Warp machine.

Shut Down

Always remember to Shut Down your system when there is a thunderstorm in your area. You may also shut down your system after you are done working for the day. I prefer to shut down my machine only on inclement weather and when I am tweaking my system and have to reboot anyway. OS/2 uses a lot of temporary files and caches your memory and hard drive etc. So before you turn your computer off, please make sure you shut down your system. This flushes the caches, closes all temporary files, brushes its teeth and does other housecleaning stuff before it goes to sleep. This is the way it was designed to work, don t try to defeat it. It can bite real hard. If for some reason you have to power down without a proper shut down, make sure you run CHKDSK with the /F parameter on all partitions on all hard disks in your computer BEFORE it boots up (do the ***and when the white blob comes up on the upper left corner). It ll take ages for CHKDSK to finish and hopefully it will clean up the mess left by open files, pointers and the like.

Conclusion

I really like Warp. I have been using it for about a year now and am quite comfortable with it. I like the way it allows me to work on my computer doing more than one thing at the same time. I like its flexibility in accommodating my needs and am quite happy with it.

Once we have more ISV s putting out some quality native software, its acceptance will grow among the general public. The looming release of Windows 95, hopefully, will be a strong incentive for IBM to release a more polished version of Warp with more neat features. IBM, however needs to motivate more hardware and peripheral manufacturers to support Warp. It also needs to improve the installation routine and some of the underlying weaknesses (like the message queue a topic for another time). Bubba, the average user, will not be inclined to put up with a user-unfriendly installation. He will ditch Warp and go elsewhere, resulting in a lost sale for IBM. They certainly have a good product on their hands hopefully they also have the wisdom not to choke it with that red tape. Maybe IBM should send it s OS/2 marketing team to Redmond, Washington for a training session or two.

What s in it for you, you ask? Well, if you have a kosher computer that will be able to handle the pressures of OS/2 Warp and your needs have outgrown the limitations of DOS/Windows, why not give Warp a try? If it works for you, you will operate at a higher level for sure. If it doesn t, you haven t lost anything. If you are the programmer type and have some wild ideas, go ahead and write that killer app. If it is a good one and you market it right, make sure your bank has a vault large enough to hold all that money you will be raking in

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Windows 95

Your Next Desktop Environment

By [Chris Strauss](#), Computer [Support Services](#) Coordinator (Strauss@unt.edu)

The press remains full of speculation and rumor over the anticipated release of [Windows 95](#). Microsoft continues to stand by its expected August 24 ship date, but no one is holding their breath. It will ship when it ships, won't it?¹ The real question for computer users at UNT should be, when Windows 95 finally does ship, what will that mean to us? A number of computer support people in the Computing Center and elsewhere around the campus have already been evaluating the various final beta versions (there are more than one) of Windows 95 for several months now. As one of those early beta users, I can tell you that you will have to have it, but also that it is not quite ready for prime time yet. Considering my two months of fairly intense Windows 95 use, four things appear to me to be clear already.

Interface

First, the interface has a significantly different feel from Windows 3.1, and there will be some transitional adjustment for every user who switches. Even my experienced helpdesk consultants had to get past the initial shock of not knowing where anything was, or how to operate it. Once you have made the adjustment, however, Windows 3.1 will feel clunky and antiquated by comparison. Even the applications feel different, since they use the standard Windows 95 dialog boxes for many routine functions. [Macintosh](#) users will not necessarily have an advantage, either, as the environment only appears to be similar at first glance. Many comparable functions, such as placing an alias on the desktop (called a shortcut in Windows 95), are actually much easier to do in Windows 95 than on a Macintosh. Concepts such as folders and long file names are very similar to the Macintosh, but other procedures are completely different, such as the massive increase in right-mouse button functions incorporated into Windows 95. Using the right-mouse click to pull up a functional menu is actually the preferred method of doing business, just about everywhere in Windows 95.

Some of the tools have changed significantly, too, with file manager being split up into Explorer (file and network functions) and My Computer (disk drive functions). The cumbersome Program Manager has disappeared behind a more efficient combination of desktop icons and a new Start button with its own cascading menus. You soon will find yourself taking shortcuts as a matter of course, such as putting an icon for your network printer on the desktop, dragging files to it to print from Explorer, and double-clicking on it to view the status of your print job in the printer queue. IMHO (in my humble opinion), the best part of Windows 95 is the task bar on the bottom of the screen. Every program you launch appears on the task bar, and each can be minimized to the task bar. You then open a window to any running program by single clicking on the task bar. Although the old [alt/tab] speed key combination to change between program windows still works, and has been improved to show everything that is running at once, you may find that the task bar works better for you. This is a good example of another characteristic of Windows 95; there are always several different ways to accomplish the same thing. The task bar will become even more significant when applications are re-written specifically for the Windows 95 interface. The Office 95 suite uses the taskbar to drag and drop selected items between applications without having to re-size those applications to adjacent areas of the screen. In fact, drag-and-drop works everywhere in the Windows 95 interface, the way you think it should have all along.

Speed

The second point I will make is that whatever you were doing in Windows, you will do it noticeably faster in Windows 95. All of the Windows applications we use now on campus run significantly faster in the Windows 95 full 32-bit environment, even if they are still 16-bit applications. Word, Excel, [WordPerfect](#), and so on, all run faster than they do on the same machine under Windows 3.1. Much of this is due to the way Windows 95 makes use of 32-bit drivers for the hard disk, network and video cards, and file access. Many of the more inefficient parts of the old DOS-based plumbing have been replaced by the Windows 95 drivers. Internet applications in particular, operating over the

Microsoft 32-bit TCP/IP stack instead of Trumpet Windows Socket, fairly scream in terms of data throughput. Only DOS applications stay pretty much unchanged. Running DOS apps in a DOS window is not noticeably faster, but you can run more of them, with better stability than before.

Smooth Work Environment

My third observation is that once users have made the transition to Windows 95, they will enjoy a smoother, easier to use, and significantly more robust work environment. By robust, I mean much harder to crash than the current Windows 3.1 system. Error recovery, even in the beta releases, is much better than in Windows 3.1. The few programs that have succeeded in locking up the beta have been ones that the vendor has admitted must be re-engineered to work properly with Windows 95. These include programs that go around the standard Windows 3.1 procedure calls to address your hardware directly, or that used some portion of DOS that Windows 95 has abandoned. In any case, the beta version of Windows 95 is in many ways already more stable than the production version of Windows 3.1. Where Windows 95 starts having problems is in communicating with [NetWare](#), specifically NetWare 4.1 directory services; more on this in my fourth observation.

Using Windows 95 also means not running out of system memory resources every time you try to load another program. I have cluttered my test system up with three or four DOS sessions and even more active Windows applications before the response time slowed enough to notice, and then went on to run all day without incident. A key point is that all the network drivers, CD-ROM and sound drivers, and other memory resident programs you used to load in DOS before starting Windows are now loaded by Windows 95 into places where they do not significantly affect system resources. Programs I could not run under Windows 3.1 while my CD-ROM and sound card were active are running fine in Windows 95, with conventional memory to spare. Also, Windows 95 really is (finally) a multitasking environment. I am formatting disks with My Computer while writing this article. Do NOT try doing that in Windows 3.1; it is a complete waste of time. In Windows 95, there is only a slight slowdown to the other applications that is just barely noticeable.

Windows 95 and NetWare

My fourth observation is that the current beta versions of Windows 95 are not yet ready to operate properly on a NetWare 4.x campus like ours, one that is moving rapidly towards NDS (NetWare Directory Services) and NDS dependent software (GroupWise). It currently ignores all aspects of NDS and will not run the GroupWise clients. We do not expect this to be remedied until the Microsoft and Novell NetWare requester layers for Windows 95 are released this fall, opening the door from Windows 95 to NDS. Since a beta of the Microsoft NetWare requester for Windows NT is already out, this may come sooner instead of later. The Novell version will probably take longer (they have said it will come out 90 days after Windows 95 is released), but it will probably be a better choice for our NetWare-centric campus. Even with these limitations, Windows 95 is dramatically more network aware than any previous version, and has much better tools for navigating the campus local area networks. It will share drives and files under either Microsoft network or NetWare network protocols, although there are some pitfalls and limitations. Again, many of our networking concerns may be resolved when the NetWare requester products arrive. They will have to be before the widespread implementation of Windows 95 can be accomplished comfortably on our campus.

Installation and Device Support

One area I have not touched on yet is installation and device support. The installation program for Windows 95 really is as smart as they have advertised. It will go out on your machine and identify the network interface card, the CD-ROM and sound card, the video card, the modem, and usually gets them right on the first try. It is much, much more hardware and network aware out of the box, and installing it has been relatively easy when you realize that half of what it does required help from your network support staff in the past. Do not get me wrong; the support staff will still have a lot to do to get you set up with Windows 95 when we finally have all the pieces to implement it on campus. They will have to hand enter the TCP/IP information on your individual machines before you can use any of the Internet tools, and they will have to decide what file sharing modes you can use since one of them is rather troublesome on NetWare networks. What this does mean, however, is that getting your home machine upgraded to Windows 95 should be a lot easier than

working with Windows 3.1 has been in the past.

SLIP and PPP Support

Another home-use issue that Windows 95 may go a long way to solve will be remote access to UNT computer systems. It has built-in SLIP and PPP support, and once we begin supporting PPP connections over our dial-ins it will offer users one more way of making that connection. It may be easier to use than the windows socket software we are testing now, but we will not be sure until we are able to test the production version.

Conclusion

To this observer, Windows 95 looks like it will be the desktop operating system you want on your machine by the end of the year. I certainly want it on mine. How fast we can implement it on campus depends on how rapidly we are able to resolve some outstanding networking issues. What is already clear is that Windows 95 is a far better work environment than Windows 3.1. Our previews of Office 95, the Microsoft applications suite for Windows 95, have also shown us that the 32-bit application software designed to exploit its features will be the software that you want to use. If for no other reason than that, there will be increasing pressure to move to Windows 95 as this year closes. Start thinking about it now.

Footnote #1: According to TIME Daily (<http://www.timeinc.com/time>) for Friday, July 14, 1995, Microsoft completed it's master golden code for Windows 95 that day. TIME called it the single most significant consumer event for the computer industry this year. According to TIME, Microsoft will now manufacture 1 million copies of the program a week at 12 locations around the country to be ready for sales August 24. The Justice Department has still not decided whether to take steps to prevent Microsoft from selling Windows 95 with software for its imminent online service, the Microsoft Network. Stay Tuned!-ED.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

The New Face



By Jason Myre, Computer Support Specialist (jmyre@unt.edu)

The only shock users upgrading to system 7.5.1 might experience is the new face of the [Macintosh Operating System](#). During the boot process of previous system versions, the user was greeted with a dialog box saying Welcome to Macintosh. You won't see that tired-out box in system 7.5.1 and above. Apple replaced it with the new icon shown above, left representing their operating system, recently named Mac OS. The new symbol, based on the happy Macintosh face of old combined with a human-face profile, will make it easier for Macintosh users to identify whether a product is compatible with their computer, not unlike the Microsoft Windows icon. This is especially necessary since Power Computing introduced the first Macintosh clone in May. The [Apple](#) Macintosh is no longer the only computer on the market using the Mac OS.

OpenDoc: Component Software Architecture

No matter how good a program is there is probably something more that you'd like it to do. But at the same time, it probably does things you'll never do. Apple has joined with [IBM](#), [Lotus](#), [Adobe](#), and [Novell](#) to set standards for a customizable component software architecture called OpenDoc. With OpenDoc, to be released later this year, users access multiple part editors and services in a single Open Doc document. Not only does this mean you can combine parts from traditionally competing products and use them all together, but you can combine modules to take care of your word processor, spreadsheet, and graphics needs without shuffling through multiple applications.

Future...

The first major rewrite of the Macintosh Operating System promises many long awaited and badly needed improvements. A big criticism about system 7.5 is its memory requirements. Even if you run a clean system (with very few third-party extensions) its hard to get by with only 8 megabytes of RAM and expect to do much more than run one major application.

With system 8, code-name Copland, you can use the entire system, with all its bells and whistles, and have plenty of room left over for applications on 8 megabytes of RAM. You'll also experience fewer crashes with Copland. In current versions of the Mac OS, its up to each program to cooperate and not steal allocated blocks of memory. With Copland's protected memory, it s less likely for applications to bump heads with each other and with the operating system. And because Copland is multi-threaded, if an application does crash, you can just reboot that application without disrupting processes like printing.

Copland addresses the growing networking needs with the a product they call OpenTransport. OpenTransport, the replacement for MacTCP, is currently released with the new PCI PowerMacs such as the Power Mac 9500, and soon released 8500 and 7500. It will be available e for other Macintosh computers later this year. Currently it supports AppleTalk, Novell IPX, and TCP/IP. PPP and SLIP will not be supported at the time of OpenTransport's initial release, but will be at a later date.

For more information on Copland, Open Doc, OpenTransport, and other Macintosh related issues, check out the following WWW sites:

- **Apple Computer** <http://www.apple.com>
- **Mac OS** <http://www.austin.apple.com/macOS/macOSmain.html>
- **Copland** http://www.ziff.com:8007/~macuser/mu_0795/feature/feature1.html

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Operating System Information on the Web

By [Claudia Lynch](#), Benchmarks Editor (lynch@unt.edu)

Naturally, the World Wide Web is chock full of all kind of interesting operating system stuff. Most of the articles in this issue have given you a list of places to look on the Web, FTP sites, etc. Besides those references, a real good place to start is at Yahoo. Yahoo has one whole page of links to operating system information (http://www.yahoo.com/Computers/Operating_Systems/).

If you are trying to make some purchasing decisions, a Canadian publication The Computer Paper (<http://www.top.ca/TCMain.html>) had an excellent series of articles called Showdown at the OS Corral in their March and April 1995 issues. Another helpful document in this regard is [OS/2 Warp](#) vs. [Windows95](#): a decision maker's guide (<http://www.austin.ibm.com/pspinfo/os2vschg.html>).

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Linux, an Operating Environment

By Darren Loher, former [Computing Center](#) employee

So many operating environments, so little time. Aren't operating environments, GUI's and modern operating systems, supposed to save you time? How do you choose which environment you want to work in? You could spend half your life just trying all of them out!

What is Linux?

[Linux](#) is a full fledged multi-user UNIX system that runs on [IBM](#) compatible PC's with a 386 or better processor. You can use it to learn UNIX and the X-Window GUI, develop programs, run a server, cruise the Internet, play games or all of the above.

Why use Linux?

Linux is UNIX. UNIX is a multitasking operating system along the lines of OS/2 or Windows NT. Unlike OS/2 or Windows NT, it is also a multi-user system and as such has security to control access to files and the rest of the system. It also comes with all the software you need to hook up to a TCP/IP network, whether it is by adialup connection or a LAN connection. Linux is also easy to set up for the first time UNIX user. To make it easier to find the packages you want, the Linux slackware distribution is available. It's acompendium of software including the base operating system and numerous tools and applications. To top it all off, Linux is free. You can download the entire system from the Internet or purchase a set of CD-ROMs from a vendor.

UNIX Features

Linux is a complete UNIX clone for Intel 386/486/Pentium machines. It includes Emacs, X11R6 (the latest X-Windows system), gcc, TeX/LaTeX, groff, TCP/IP, SLIP, UUCP, the works.

X-Window

XFree86 is the standardized GUI that comes with the slackware distribution of Linux. It is a full featured implementation of the the X-Window system, X11R6. R6 (release 6) is the absolute latest implementation of X-Window. It's not uncommon for Linux to have the latest and greatest features out there since all the Linuxdevelopers are on the Internet. X-Window is a powerful and arcane GUI for the new user.

Development

Nearly all the GNU development tools are available for Linux. This includes C, C++, objective C, as well as other free packages like and XView toolkit, objective C and Tcl/Tk. GNU is an organization of programmers that creates free software that is copyrighted under a special agreement detailed in the GNU Copyleft. This document essentially states that all material produced by GNU cannot be sold and must remain free. However, you can develop software with GNU tools and then sell the software you have developed. Many special conditions apply so you should read the copyleft document before you go about making your fortune.

Internet Tools

Loads of Internet tools exist for Linux. In addition to all the standard UNIX tools such as telnet, ping, traceroute, whois, sendmail and others. In addition, more user oriented tools areavailable like the widely used Netscape WWW browser.

Also included in the slackware distribution are [Pine](#) and [Elm](#); popular, easy to use UNIX E-mail programs.

Games

The wildly popular [DOOM](#) is available for Linux and, in fact, is a part of the slackware distribution. Also in the slackware distribution is a collection of the classic BSD games distribution and a couple of X-Windows games like connect 4, lunar lander, and an X-interface for GNU Chess. Netrek, a 16 player real time space battle game played over the Internet (virtual sport of the gods) is also available. Many more games are available on the [Linux distribution sites listed on page 16](#).

Requirements for Linux

Since Linux can support many different configurations, there are many different system requirements. Below I've made a little list of the MINIMUM I would recommend to each class of user or developer.

- CPU RAM Hard Drive
- Bare minimum: 386sx16 2Mb 40Mb
- Regular user: 386DX33 8Mb 80Mb
- Power user: 486DX33 16Mb 200Mb
- Developer: 486DX2/66 16Mb 400Mb

The bare minimum setup is just barely a usable system, in my opinion. Smaller configurations are possible than even this bare minimum, but they are useful only in very specific applications, such as a (slow) router for a network, or a dialup terminal server. A more practical system setup that will support the X-Windows GUI and run several applications at once would have a 386DX 33 and 8Mb of RAM and an 80Mb hard drive. This configuration will support a regular user, and even development of small applications. For a serious development system I would recommend at least a 486DX33 with 16Mb of RAM and 200Mb of disk space at least. All the development tools can take up quite a bit of space. And with all the information, source code and programs you may find on the Internet to help you out, you can easily consume that 200Mb.

Supported Hardware

In all cases the IBM PS/2 MCA (microchannel) bus is not supported. PCI, VESA Local Bus, EISA and ISA bus are all supported. Many common brands of ethernet cards, SCSI adapters and the Soundblaster sound card are supported. It is beyond the scope of this document to list all these items individually, but complete lists may be found on the Linux Documentation Project homepage, which is listed below in the Support section of this document.

Of course, Pentiums are really nice, but they are definitely not required for any user configuration of Linux, but perhaps only for servers or serious developers. After a 486DX2/66, it's really a matter of user preference and how patient you are!

How to get Linux

Via the Internet:

- Ftp to [ftp.cc.gatech.edu](ftp://ftp.cc.gatech.edu)
- Ftp to [tsx.mit.edu](ftp://tsx.mit.edu)
- Ftp to [sunsite.unc.edu](ftp://sunsite.unc.edu)
- Ftp to [ftp.pht.com](ftp://ftp.pht.com)

Via a CD-ROM vendor:

- Walnut Creek CD-ROM 1-800

- Other CD-ROM vendor

Support

Because Linux was developed as a collaborative effort on the Internet, there's no better place to find information about it than the Internet. Guess what? It's free too.

- Linux Documentation Project (<http://www.sunsite.unc.edu/mdw/index.htm>)
 - Resus Linux Information Server (<http://www.resus.univ-mrs.fr/Us/CS/Linux/Linux.html>)
 - Linux Announcements ([news: comp.os.Linux.announce](news:comp.os.Linux.announce))
-

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Solaris: Environment or Operating System?

By Amos Gouaux, Jove System Administrator (amos@unt.edu)

Back in January we upgraded Jove from a Solbourne 700 running a variation of [SunOS](#) 4.1.2 to a Sun SPARCserver 1000 running Solaris 2.4. The new operating system, Solaris 2.4, represents a radical departure to what we have been using in the past. So why the change? What's different? What's in store for the future?

OS or Environment?

First, a little clarification on names. SunSoft, a branch of [Sun Microsystems Computer Corp. \(SMCC\)](#), names their UNIX operating system SunOS. The Solaris operating environment includes SunOS, the OpenWindows windowing environment, the DeskSet tools, and the AnswerBook online documentation. Solaris 1.x contained SunOS 4.1.x, while Solaris 2.x contains SunOS 5.x. Typically, when folks say Solaris, they mean the Solaris 2.x/SunOS 5.x environment; and when they say SunOS, they mean the Solaris 1.x/SunOS 4.1.x environment.

Background

A brief digression might be helpful before discussing why Sun changed their operating system. Instead of wandering through the long, though interesting, history of how UNIX became what it is today, I'll summarize by saying that two major schools developed. One camp was on the east coast at [AT&T Bell Labs](#), the other was on the west coast at the [University of California at Berkeley](#) (UCB). Beginning in the early 1970s at AT&T, and then shortly thereafter at UCB, both sides developed their own version of UNIX, borrowing pieces from one another. The version of UNIX from AT&T eventually became known as System V. UCB developed a UNIX kernel that was packaged as the Berkeley Software Distribution (BSD). AT&T worked to make UNIX a commercial success, stressing the need to create open systems through the use of standards bodies, while UCB produced much of the innovation.

Early on, Sun based their UNIX on BSD. While developing SunOS 4.1.0, Sun and AT&T worked together to develop System V Release 4.0 (SVR4). Out of this venture, Sun gained such features as STREAMS and shared memory while AT&T gained NFS and XView. SunOS 4.1.0 also included some of the SVR4 commands and libraries, locating them in `/usr/5bin`, `/usr/5include`, and `/usr/5lib`.

Sun recognized the need to improve portability across various UNIX platforms. Several other vendors, most notably IBM, HP, and SGI, had already adopted the System V specification. With this momentum, when these vendors got together to work on developing a common UNIX standard, it seemed natural to use System V as the basis for this standard. The document that was produced by this effort was informally known as Spec 1170.

Today, X/Open Co. Ltd. owns the UNIX trademark, acquiring it from Novell, who acquired it from AT&T's UNIX System Laboratories (USL). X/Open incorporated Spec 1170 into their definition of UNIX. Now, a vendor must be certified as being compliant with these standards before X/Open will grant their use of the UNIX trademark. Solaris 2.4 compiles with X/Open as well as POSIX 1003.1, POSIX 1003.2, and X11R5.

So, by adopting the System V standard, Sun brought their operating system into greater compliance with the UNIX market. However, Sun did not merely port SVR4 to the SPARC architecture. They enhanced SVR4 by adding a full symmetric multiprocessing and multithreaded kernel, along with a scheduler that supports three run-time classes, including a real-time class. With threads, it is now possible to achieve a form of parallelism on machines with more than one processor.

Differences

Okay, so what all is different from SunOS 4.1.x and SunOS 5.x (remember, SunOS 5.x is contained in Solaris 2.x)?

Well, basically SunOS 4.1.x was BSD with a little bit of SVR4 thrown in. Now, with SunOS 5.x it's just the opposite: SVR4 with a little bit of BSD thrown in. Remnants of the old BSD system can now be found in /usr/ucb, /usr/ucbinclude, and /usr/ucblib.

[The Table on page 16, shows some of the differences in the most commonly used commands.](#) The commands under the New column are located in /usr/bin and represent the SVR4 commands. The commands shown under the Compatibility column represent the pieces of the BSD compatibility package. And the commands under the Old column are the ones used in SunOS 4.1.x.

There is also a utility on Jove called **whatnow**. This is a package written at Sun that can be used to help track down differences in the new system. An example of its usage would be: % **whatnow ps**

The whatnow(8) man page goes into all the details of this command.

Those wanting to use the BSD style commands may be tempted to put /usr/ucb first in their command path. However, this is not recommended. Putting /usr/ucb first in your path will cause problems when trying to compile programs. Furthermore, not all the commands in /usr/ucb are exactly as they were under SunOS 4.1.x. A better solution would be to make aliases for specific commands in /usr/ucb that you would prefer to use. Below are two examples.

alias ls /usr/ucb/ls

alias du /usr/ucb/du

To preserve these aliases between logins, place the above commands in your .tcshrc or .cshrc, depending on the shell you are using.

Sun also provides a Binary Compatibility Package which provides the ability to run executables on a SunOS 5.x machine that were compiled on a SunOS 4.1.x machine, provided they are well behaved. According to Sun, an application is well behaved if it adheres to the following criteria. (*Solaris Porting Guide*, p.13)

- must be dynamically linked
- must not access libkvm or /dev/kmem
- must not write directly to system files
- must not rely on customer-supplied drivers or ioctl's
- must not trap directly into the kernel
- must use only publicized SunOS interfaces

Those attempting to compile BSD C code on Jove and other ACS systems can try using the command ucbbc. This is simply a wrapper that makes certain to use the BSD header files and libraries. While this can save time in getting an application up and running, ultimately the better approach would be to port the code to use the SVR4/ POSIX routines. Doing so will ensure the greatest portability in the future.

Future Plans

Speaking of the future, what is in store for future releases of Solaris? As it turns out, Solaris 2.5 is expected to be released at the beginning of 1996. The most noticeable feature to appear will be the Common DeskTop Environment (CDE). CDE is based on the Motif mwm window manager with features borrowed from HP/VUE and DeskSet tools from a variety of vendors. CDE provides a virtual desktop using the concept of rooms, each containing its own display layout or desktop. It's hoped that CDE will provide a consistent windowing interface across platforms. Solaris 2.5 will also support Access Control Lists (ACLs). ACLs provide greater flexibility with file permissions. It will be possible to grant access to specific users, instead of just groups or everyone on the system. There will also be support for the new UltraSPARC 64 bit processor. And, due to popular demand, additional BSD commands and system calls will be restored. We will write more on Solaris 2.5 as it becomes available.

Bibliography

Solaris Porting Guide, Michele Ann Goodman, Manoj Goyal, Robert A. Massouai 1993, SunSoft Press

UNIX Review "Single UNIX Specification", p. 41, Mark Funkenhauser (June 1995, Vol. 13, No. 7).

The Table

(numbers in parenthesis are footnotes-not part of syntax)

New	Compatibility	Old
ps -ef	/usr/ucb/ps -aux	ps -aux
du -k	/usr/ucb/du	du
ls -ls(1)	/usr/ucb/ls -lsg	ls -lsg
lp -d prt(2)	lpr -Pprt	lpr -Pprt
lpstate -o prt	lpc -Pprt	lpc -P prt
mailx(3)	/usr/ucb/mail, Mail	/usr/ucb/mail, Mail
cpio -H bar(4)	-	bar

- (1) Sizes shown in the first column are in 1/2 KByte blocks, not Bytes as previously.
(2) On the ACS UNIX servers, it is not necessary to specify the printer on the command line if a default printer has been defined using the 'printer' command at any time since getting an account.
(3) Not to be confused with the mail alias, which calls Pine, that is defined globally on the ACS UNIX servers, which still run Pine.
(4) **cpio -H bar** can only be used to read bar format media

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

New Mainframe Installed

By Dr. Philip Baczewski, Assistant Director of Academic Computing (baczewski@unt.edu)

In July, the UNT [Computing Center](#) installed a new [IBM](#) 9672/R51 mainframe computer. This system was acquired to support both the Administrative and Academic mainframe systems in separate partitions of the same machine. The new mainframe features IBM's latest technology. It uses redundant and easily configurable CMOS processors to provide the same power as previous monolithic mainframe architectures. These new processors have resulted in a mainframe that is reduced in size and power consumption, thereby saving the University in the areas of space and electricity.

According to Coy Hoggard, Senior Director, Administrative Computing Services, the new machine has been christened Bubba Ray in honor of [outgoing chair of the IRC Dr. Ray vonDran \[he has accepted a position at Syracuse University\]](#). Bubba Ray was a nickname vonDran adopted upon moving to Texas from New Jersey.

As of July 15, all Administrative mainframe processing was running on Bubba Ray. Academic users are slated to move to the new machine starting around August 14. A one or two day period will be required to make the transition from VM/XA to VM/ESA, the latest version of the VM/CMS system. We expect to provide a more efficient and powerful VM system for the Fall semester.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Senior Director of Academic Computing Services Resigns, Interim Director Appointed

By [Claudia Lynch](#), *Benchmarks* Editor (lynch@unt.edu)

Dr. Paul Gandel, Senior Director of Academic Computing Services, left UNT in July to accept the position of Associate Provost for Information and Instructional Technology at [Ohio University](#). Paul came to the Computing Center in 1992 from [AT&T Bell Labs](#) in New Jersey. While at UNT, Paul presided over the formation of [Support Services \(the Helpdesk\)](#), the [Interactive Learning Team](#) (ILT), the campus-wide WAIS system and the [Campus-wide Distance Learning Initiative](#).

Dr. Kandice Salamone Gandel, Paul's better half, also left her position as an Institutional Research Analyst in the Office of University Planning and Analysis in July. Kandice will join the E.W. Scripps school of Journalism at Ohio University, where she will be an assistant professor. We wish them both well.

Dr. Maurice Leatherbury, Assistant Professor in the [School of Library and Information Sciences](#) here at UNT has been named Interim Director of Academic Computing Services. He will assume this position in early August. If you are interested in contacting Dr. Leatherbury, he can be reached at his LIS account (leatherb@lis.unt.edu) for the time being.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Staff Activities

Transitions

- Dr. Paul Gandel, Senior Director, Academic Computing. [See article on preceding page for further details.](#)
- Darren Loher, Data Communications Analyst, resigned to accept a position at Parinet in Dallas.
- David Young, a programmer in Mainframe Technical Services, accepted a similar position at UTA.
- Malathi Boddu, joined [Support Services](#) as a Helpdesk Consultant. She is a [Computer Science](#) major.
- Roland Wade, is also a new Helpdesk Consultant. Roland is currently working on an MBA, having recently graduated with a BS in [BCIS](#).

Awards

- Cathy Hardy, Academic Database Consultant, was recognized as a Soaring Eagle at the Chancellor's Sack Lunch, May 10.
- Sandy Burke, Computer Support Specialist, was presented with a Soaring Eagle afghan rug at that same Sack Lunch for all her hard work during the SACS study.
- In the News Eriq Neale made the front page of the Today section of the [Dallas Morning News](#), Monday, June 26, 1995. His Homepage (<http://lipsmac.acs.unt.edu/>) was featured as an example of personal pages on the World Wide Web.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

News From the CWIS/Gopher Hole

By [Doug Bateman](#), CWIS Coordinator (dbateman@unt.edu)

This column covers features and resources available through the University's Gopher Campus Wide Information System (CWIS). Gopher is available on various UNT host computers including the VAX, Sol, and Jove. It is also available in the General Access Labs and on various Novell file servers around campus.

A Homepage of One's Own

I suppose that no matter what else was taking place in my area, the most important news to the majority of you reading this is the opening up of the UNT World Wide Web to serving personal homepages. If you haven't heard about it before now, I'm very surprised. Yes, anyone who has an active account on Jove (our general-purpose UNIX host system) can now publish on the Web. Before I go into the details of how to do this, let me first lay out some of the ground rules.

Rules of the Road

Now before you go off saying to yourself, Oh no, I knew there had to be a catch! , I want to assure everyone that as much concern and thought was put into this process as was humanly possible. At no time was any consideration given to making this opportunity restrictive by nature quite the opposite as a matter of fact. Every attempt has been made to allow everyone the freedom to express his/her own individuality and creativity. Also, please make a note that there has been no attempt to single out student homepages any reference to personal or individual web pages is without regard to that person's status with the University.

The end result is that instead of me or the [Computing Center](#) or whoever coming up with new rules, regulations, etc. to govern the content of personal web pages, existing University policies and regulations regarding the printing or public dissemination or display of materials will be extended to cover individual web pages. Of course, policies that govern use of University computing resources naturally apply here as well. I won't use this column to quote all the pertinent policies or regulations since they are freely available and many are included in either the student or employee handbooks we've all received or the graduate and undergraduate catalogs.

Let me add that neither I nor anyone that I work with has any intention of playing Web cop to enforce any of these policies or regulations. UNT already has in place adequate grievance procedures that can be used by anyone who takes issue with anything published or displayed on campus, no matter what form the material may take. So, what should you do if you should happen upon a web page (published at UNT by someone affiliated with the University) that you consider objectionable?

Your first action should be to contact the author of the web page to express your concerns directly. You'd be amazed at how unintentional some offenses are, and how cooperative people can be when their offense is called to their attention. If you are reluctant or unable to do this, or you have tried this without success, I offer myself as a mediator of sorts. You can contact me by phoning (817)565-2568, E-mail me at www@unt.edu, or drop by my office at Room 119, Information Sciences Building (ISB). I will discuss the matter with you, privately and confidentially, and may even attempt to convey your feelings to the individual myself. Ultimately, however, any issues of this nature will be between yourself and the individual concerned, which may involve your following formal grievance procedures.

If you are in the process of creating your own homepage, and have questions about whether something you want to publish may be offensive or objectionable, I would be glad to discuss the matter with you. I certainly do not consider myself the ultimate judge of good taste, but I do feel I can be reasonably objective and nonjudgmental and can provide sensible advice or guidance. Of course, you'd certainly be free to regard or disregard my advice as you saw fit.

How to Start

The following instructions are basically a rehash of the instructions that are available online on Jove. Just enter help at a Jove prompt and follow the menu to recall these instructions while you are online.

1. In your home directory, create a subdirectory named **www**. Note: this directory **must** be named **www**.
% **cd ~**
% **mkdir www**
2. Change your current working directory to the **www** directory you just created. This will be the directory in which you create your homepage and any supporting web pages you want to make.
% **cd www**
3. Create an empty file named **index.html**. This file will ultimately become your homepage, but even an empty file is necessary in order to prevent a web browser from seeing everything in this directory.
% **touch index.html**
4. Use your favorite text editor to edit the file **index.html** and create your homepage. That s it!

Guidelines for Personal Web Pages

I've written a web page that contains links to a lot of good material on the Web material that teaches you how to write web pages, provide style guides, etc. You can find this information at <http://www.unt.edu/~dbateman/links.html>. I also teach a basic web-authoring workshop a few times each semester, one of several Computing Center Short Courses that are available. Here are some additional guidelines, based upon my own experiences:

- Keep the use of graphics to the minimum necessary to convey the information you want. A single inline image should not exceed 20-30k in size, and you shouldn t sprinkle images all over your page just because you can. People will quickly grow tired of how long it takes for your page to be displayed in their web browser if you disregard this.
- If you do want to use graphics, check out the collection available to everyone at <http://www.unt.edu/icons/>. No sense using up your Jove disk quota when you can borrow graphics from the server.
- Don t use Netscape s non-standard extensions to HTML unless you are deliberately limiting access to your page to only those people who use Netscape. The results displayed in another browser may be hideous!
- Be proud of your work sign it. At the very bottom of your page you should put your E-mail address so people can easily send you comments. Depending on the information you are publishing, you might also put the date you last updated the information.
- Always keep in mind that the very nature of HTML is that ultimately the web browser determines the appearance of a web page, not the author. Don t try to force HTML to do what you think it ought to; the end results (to the person viewing your page) are usually not worth the effort.
- Do use this opportunity to tell the world a little about yourself. Include your likes and dislikes. Include your interests and hobbies. If you have collected a lot of information about a particular interest of yours, be sure to include it. And let people know about your homepage. There are a number of sites, newsgroups, etc. that encourage individuals to announce their hompages.
- For those of you who want to be on the cutting edge of web-authoring, I m afraid you may find UNT s WWW site somewhat restrictive. Imagemaps should be supported by the time you read this, although there could always be an unintentional delay due to unforeseen circumstances. Server-side includes and locally executable CGI scripts are not available due to security concerns. Unfortunately, this means that HTML forms are not generally available since each form usually requires its own CGI script to process the form data. I will attempt to make generic CGI scripts available that those of you who wish to may use.
- As always, I am available for any questions, suggestions, or comments you may have. I hope that you make use of this opportunity and that it proves useful for you in some way. But most of all: Enjoy it!

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

Helpdesk Expands Hours

[Support Services](#) has announced their new expanded hours: 7 a.m. to 7 p.m. Telephone support is available until 11 p.m. on weekdays and from 5-10 p.m. on Saturday and Sunday

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

The Network Connection

By [Dr. Philip Baczewski](#), Assistant Director, Academic Computing. (baczewski@unt.edu)

This column is a continuing feature of Benchmarks intended to present news and information on various aspects of wide area networks.

WEB of Lists

Electronic mailing lists are still among the most popular of Internet services. Their numbers are continually on the increase which makes it more likely that there is a discussion list that you might be interested in, but less likely that you will be able to find it. Fortunately, there are some new services that can help solve this problem. Several World Wide Web pages and Gopher sites are now available to search for electronic mailing list citations and browse their descriptions.

A Load of Lists

Mailing lists have been popular since the old BITNET days (ancient history, by computer standards) as a way to exchange information with others that share the same interest or profession. When there were only several hundred mailing lists, they were quite easy to find and to access. Now there are many thousands of these on-line discussion lists and finding one on a particular topic can be a daunting task. It is possible to get a list of all LISTSERV mailing lists by sending E-mail to any LISTSERV installation (like listserv@utarlvm1.uta.edu), with the command LIST GLOBAL as the body of the message. What you will get, however, is a 20,000-plus line file that itemizes over 6000 different lists. You can narrow this down by sending the command LIST GLOBAL /topic, where you replace topic with whatever word or string which reflects a subject that interests you. The downside to this technique, is that you receive very minimal information about the mailing list and browsing through the long listing can sometimes be quite tedious.

The World on the WEB

There are several World Wide Web pages that can help you find or quickly browse through collections of electronic mailing list citations. You can visit these by using a Web browser like Netscape or NCSA Mosaic. In Netscape, for example, use the 'Open Location' menu item to point your browser at the sites mentioned below.

The netspace LISTSERV

<http://www.netspace.org/cgi-bin/lwgate/> is a page that provides an interactive interface to the LISTSERV that is installed at the Internet site, netspace.org. This LISTSERV maintains quite a few lists of its own and you can browse through the list and even subscribe through this WWW service. The Web-based subscription process is limited, however, to only those lists on the netspace LISTSERV. Another service of Netscape, however, is to allow you to get a list of LISTSERV lists mailed to you. The item, Search for Other Mailing Lists lets you request that a complete list of lists or a list narrowed by a substring search be mailed to you at a specified E-mail address. This page also points to documentation for using the popular mailing list software packages under the heading, "Info on Mailing List Software."

All the LISTSERV Lists

A more global collection of LISTSERV mailing list citations is found at <http://www.tile.net/tile/listserv/>. You can see lists of mailing lists grouped by number of subscribers, first letter of the list name, archive policy, country of list origin, list membership policy, list server name or the sponsoring organization of the mailing list. You can also look at a complete collection sorted in a couple of different ways: by list description, by list name, or by the number of list subscribers. These are long listings, however, so you might want to browse the different groupings before selecting any of the sorted lists. Another feature of this Web page is the ability to do a keyword search on the collection of mailing

list citations. You'll find this to be a much quicker way to explore the breadth of LISTSERV mailing lists than the traditional E-mail LIST GLOBAL query.

Scholarly Lists on Line

For quite some time, one resource that's been available to find mailing lists has been a grouping of scholarly electronic mailing lists organized by subject. This collection, compiled by Diane Kovaks at [Kent State University](#), was previously only available as a series of computer files. It has now come to the Web at the location: <http://www.mid.net:80/KOVACS/>. You can also access it via Gopher at the address, <gopher://gopher.mid.net:7002>. (You can use your Gopher client to see this information by pointing to gopher.mid.net using the port number 7002.) The Web page lets you view hierarchical lists of mailing list citations organized by subject or by alphabet. You can also search the collection by subject, keyword, list name, and other associated information.

E-Journals and Magazines

Electronic journals and magazines have been around almost as long as electronic mailing lists. One Web-accessible collection of these can be found at the site, <http://www.csi.uottawa.ca/info/mags.html>. If you browse this page, you'll find references to other on-line lists as well as a few direct references to on-line journals. By following some of these paths, you can access copies of some of the electronic publications.

The Web's the Way

As the World Wide Web becomes more extensive, it is becoming a tool to organize a lot of information that has preexisted it on BITNET and the Internet. By knowing a few key references like those above, we can benefit from this new technology in order to access a more established information service. As more of these services are indexed by various Web sites, your access to information can only get easier to accomplish.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu



Information Resources Council News

Minutes provided by Sue Ellen Richey, Recording Secretary

IRC Regular Voting Members: Ray von Dran, Library and Information Sciences (Chair); Cengiz Capan, College of Business; Carolyn Cunningham, Student Affairs; Paul Dworak, College of Music; Brian Forsman, UNTHSC Information Resources Council; Chuck Fuller, Fiscal Affairs; Larry Gleeson, School of Visual Arts; Don Grose, Libraries; David Hartman, School of Community Services and School of Merchandising and Hospitality Management; Sam Magill, UNTHSC Director of Information Technology Services; Steve Miller, Administrative Affairs; Tom Newell, Telecommunications (Ex-officio); Don Palermo, Academic Administration; Jean Schaaque, College of Arts and Sciences; Paul Schlieve, College of Education; Ronald Sutcliffe, Graduate Student Council; John Todd, Faculty Senate; Virginia Wheelless, Associate Vice President and Director, University Planning and Institutional Research; Steve Williams, Undergraduate Student Association. IRC Ex-officio Nonvoting Members: Bill Buntain, Computing Center; Jim Curry, Microcomputer Maintenance Shop; Paul Gandel, Computing Center; Richard Harris, Computing Center; Coy Hoggard, Computing Center.

May 16, 1995

The Chair announced that his last meeting would be in June, since he has accepted a position as Dean of the School of Information Studies at [Syracuse University](http://www.syr.edu).

Research Program Group

Dennis Mueller presented a report from the Research Program Group outlining how research needs at UNT might be met. The two proposals contained in the report are:

1. to enhance UNIX capability to meet centralized (host) academic computing needs with a \$750,000 allocation for the purchase of a new machine; and
2. to meet needs not covered in the first proposal by allocating resources for Innovative Projects.

Discussion followed during which it was pointed out that most LAN Managers are familiar with UNIX systems, more so than with mainframe technology, for the purpose of helping users. It was mentioned that the proposal assumes that the [College of Business](http://www.unt.edu/UNT/departments/CC/Benchmarks/julaug95/irc.htm) would continue to use the mainframe for its curricular needs. Concern was expressed that the proposal does not take into consideration the needs of [College of Education](http://www.unt.edu/UNT/departments/CC/Benchmarks/julaug95/irc.htm) faculty researchers who do most of their work on PCs. Mueller explained that the solution being presented does not presume to try and meet everyone's needs by upgrading the UNIX system; that is why the second proposal was included. He feels that through the establishment of a fund for Innovative Projects, other non- UNIX research needs could be met.

Kathy Swigger moved that IRC rules of practice, which provide that action be taken on an item one month after it is presented, be waived. Virginia Wheelless seconded the motion. There was some concern expressed about voting on the proposal without having time to think about it and discuss it with others. On the other hand, there was concern about delaying a vote since that would mean a delay in HEAF allocation for any new purchase being recommended. A vote

on the motion to waive the IRC rule was taken with 11 voting for and 3 against.

On behalf of the Research Program Group, Dennis Mueller presented Proposal 1 of the report to the IRC for a vote, the motion being to enhance UNIX capability to meet centralized (host) academic computing needs with a \$750,000 allocation. The proposal was approved unanimously.

Discussion followed on the second proposal regarding the establishment of an Innovative Projects fund. It was suggested that the Program Group also address the issue of providing support for equipment and software purchased under research grants. Don Grose suggested a friendly amendment to Proposal 2 adding a dollar amount of \$500,000. Dennis explained that Proposal 2 is intended to provide additional money in the Academic Computing budget; it does not preclude spending money on other projects already in existence on the campus. He further explained that the idea is to provide funds and some structure to solicit proposals from faculty who wish to apply for some of those funds.

Paul Dixon stated that he would like to see funds like this made available to faculty, but there needs to be further clarification of how this allocation would fit into the Provost's overall allocation of HEAF funds. He also suggested that this proposal needs the endorsement of other committees such as Faculty Senate.

A motion was passed to table Proposal 2 until the June 20th meeting.

Other Business

Since there was a question regarding the representation on the Council by members of the UPC who also represent a College, the Chair explained that the UPC had selected people to represent them on the Council, and so as not to enlarge the membership of the Council they chose people who were already on the IRC. Paul Dixon stated that he would like further clarification of this point from the UPC.

Dr. von Dran announced that the Alliance for Higher Education was again trying to sell its services to UNT. He charged the Instruction Program Group to prepare a memo to convince the Steering Committee and the President not to buy into their offer.

Richard Harris distributed a spreadsheet that outlined three views of the [Computing Center](#)'s HEAF budget. He explained that this is an attempt to put the first dollar figures with the strategies as proposed. He pointed out that the figures given in the first view are probably more money than can be allocated, but it shows what would be needed if everything was done. The second view shows each item funded in order of priority. The third view is funding by project. No action is needed on this at the present time; it was presented as an information item, and members are requested to provide input to Richard. Opportunity for further discussion will be given in the June meeting.

Richard also announced that it has been agreed to by the President to put the mainframe upgrade on the Board of Regents agenda.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

List of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month's list...

WIN95-L Windows 95 Give-and-Take Forum

Owners: Nathan Brindle (nathan@lsoft.com), Scott Ross (ross@primenet.com)

WIN95-L is an open, unmoderated give-and-take forum relating to [Microsoft's Windows 95](#) operating system. (WIN95-L is running on L-Soft's LISTSERV TCP-IP Version 1.8b for Windows 95.)

Archives of WIN95-L mail items are kept in weekly files. You may obtain a list of files in the archives by sending the command **INDEX** WIN95-L in the body of E-mail to LISTSERV@WIN95.DC.LSOFT.COM.

To subscribe to WIN95-L send E-mail to listserv@win95.dc.lsoft.comm with the following message: **subscribe**
WIN95-L Firstname Lastname substituting your own first and last names.

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu

The Unabomber Gets a Web Page

The Unabomber has been stirring up such a fuss lately that TIME (<http://www.timeinc.com/time>) has dedicated a page to him/her/them. It can be accessed by connecting to the TIME homepage and searching for it, or you may be able to get to it via <http://www.pathfinder.com/OkF/pathfinder/features/unabomber/index.html>

If you have problems or questions about this server, please contact us as soon as possible. You can send mail to the following address:

WWW@unt.edu